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T. N. KELYNACK, M.D.

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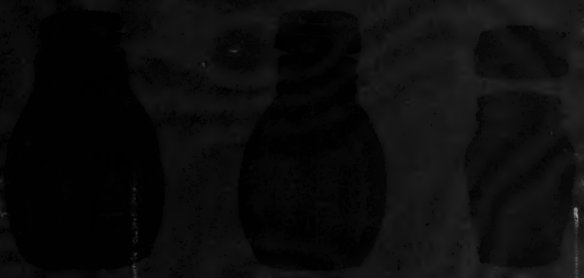

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THE BRITISH JOURNAL
OF
TUBERCULOSIS

Vol. XX. January, 1926. No. 1.

ORIGINAL ARTICLES.

OBSERVATIONS ON ARTIFICIAL LIGHT TREATMENT IN SURGICAL TUBERCULOSIS.

By Sir HENRY GAUVAIN,

M.D., M.CHIR. (CANTAB.),

Medical Superintendent, Lord Mayor Treloar Cripples' Hospitals, Alton and Hayling Island; Consulting Surgeon, Heatherwood (Ascot), King George's Sanatorium (Bramshott), High Beech (Loughton), etc.

The interest that light treatment has evoked and the increasing numbers of practitioners who are adopting actinotherapy, not only in the treatment of surgical tuberculosis, but also in many other conditions, renders it desirable that those who have had practical experience in the therapeutic employment of light should record their results and describe their technique as fully as possible.

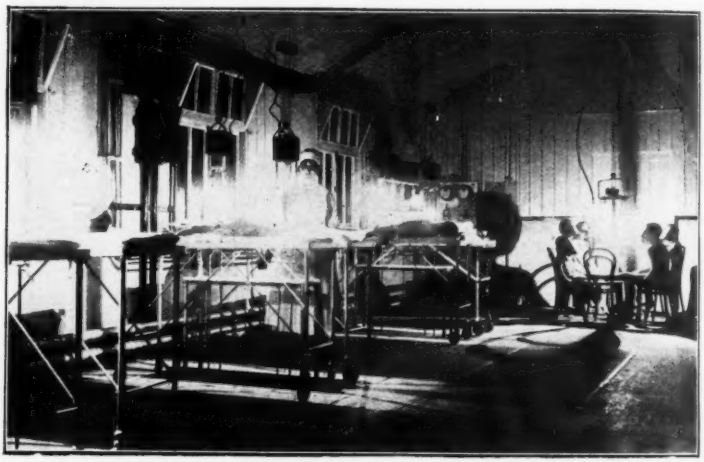
The treatment is attractive, is welcomed by patients, is apparently simple in application and often successful, but is not infrequently disappointing.

Investigations now being made are continuously elucidating new effects, sometimes unexpected, occasionally contradictory. The scientific basis of light therapy still rests on uncertain grounds, and it distresses the scientific mind that exact rules for treatment, based on laboratory findings, cannot as yet be accurately formulated. This need occasion no surprise. So many sources of light of varying and variable intensity, of differing wave-lengths or varying combinations of wave-lengths, are employed, and there are such considerable variations in the response to treatment of different individuals, and even of different tissues in the same individual, that the subject becomes exceedingly

complex, and rigidly scientific treatment is not as yet practicable. Nevertheless certain effects may now be always obtained according to prearranged plans.

Benefits from light therapy are now claimed for many diseases. In a book recently published it is stated that good results have followed its application in some 150 conditions which are tabulated, and that would by no means exhaust the number in which benefit has been claimed.

It would be well, however, to remember that while general light baths will often convey to a patient a sense of well-being and even of exhilaration—in other words, produce a marked temporary tonic effect

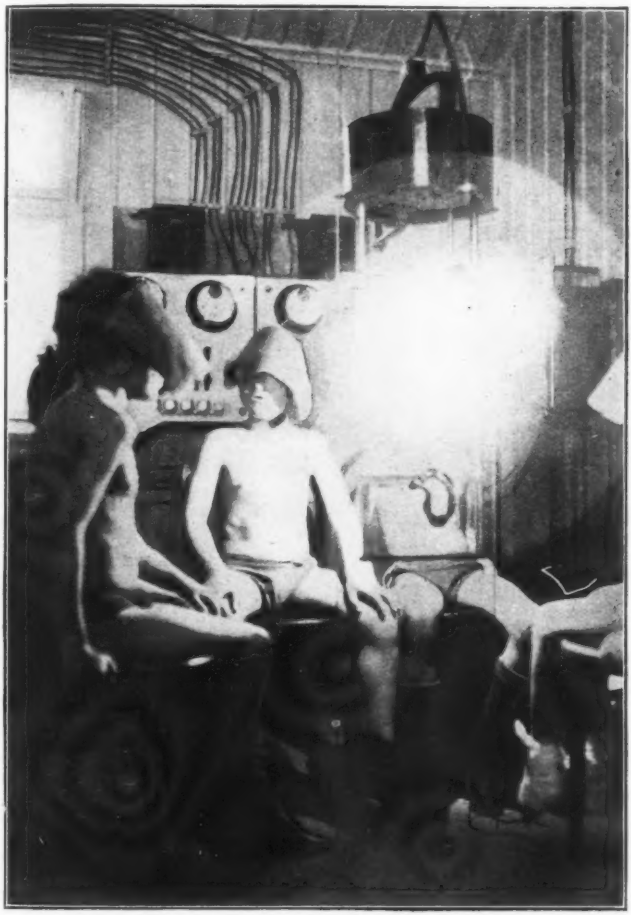


A CORNER OF THE LIGHT DEPARTMENT AT ALTON.

which may be reflected in local improvement – more often than not it is not a specific but merely a transitory reaction, the benefit of which becomes later less apparent. This should be kept in mind, or subsequent disappointment will follow. It may be anticipated that with increased knowledge and experience the exact extent of the value of light treatment will be more accurately comprehended. The sooner that stage is reached the better. Sober judgment will then appreciate its true value, and much of the exaggerated enthusiasm which in some quarters is now unduly apparent will vanish when the limitations of this method of treatment are better understood and sound clinical experience has indicated to what extent it has a potential value.

I do not make these remarks as in any way disparaging light treatment. Its value is clearly established, and no well-equipped institu-

tion for the care of the tuberculous patient can afford to dispense with its aid; but it is time that the exaggerated claims sometimes made should be refuted. Just as the claim that "the sun will cure all forms of surgical tuberculosis" is quite untenable and is certain eventually to



A 75-AMPÈRE CARBON ARC LAMP FOR AMBULANT PATIENTS.

dishearten many sufferers and bring discredit on those who make that claim, so undue optimism in artificial light therapy will have an inevitable reaction. It is eminently desirable to use this method of treatment in surgical tuberculosis in suitable cases, but it should be

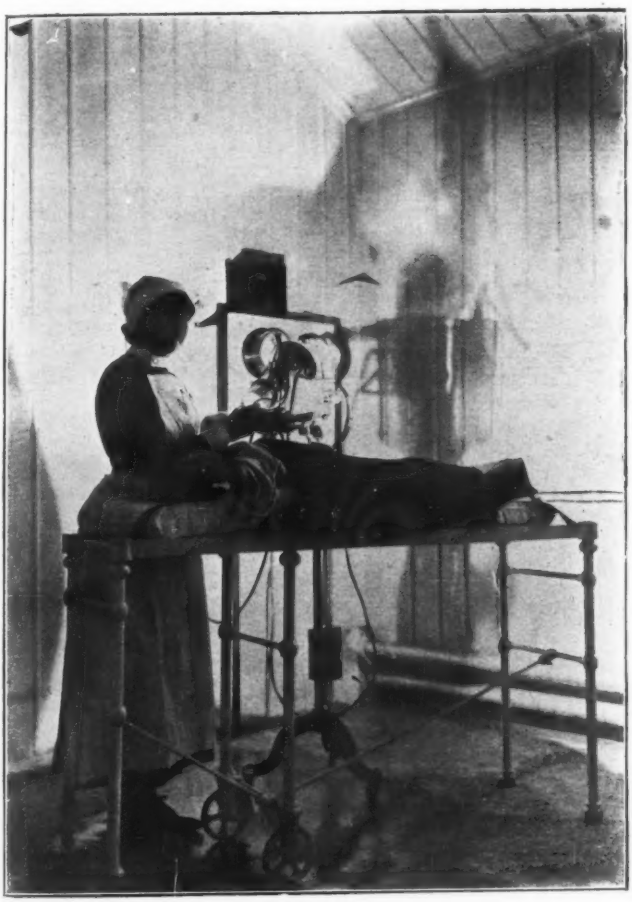
regarded merely as an adjuvant method of treatment, as often a useful aid, but in no sense as a specific treatment.

This being clearly understood, subsequent occasional disappointment and disillusion will be avoided.

TWO 20-AMPÈRE CARBON ARC LAMPS FOR RECUMBENT PATIENTS.

I cannot but think that much experience of real value and of the utmost help would be acquired if those practising artificial light treatment had first a thorough training in the use of natural sun treatment. Much may be learnt from the latter, and the associated value of aerotherapy will be better understood. The striking improvement in

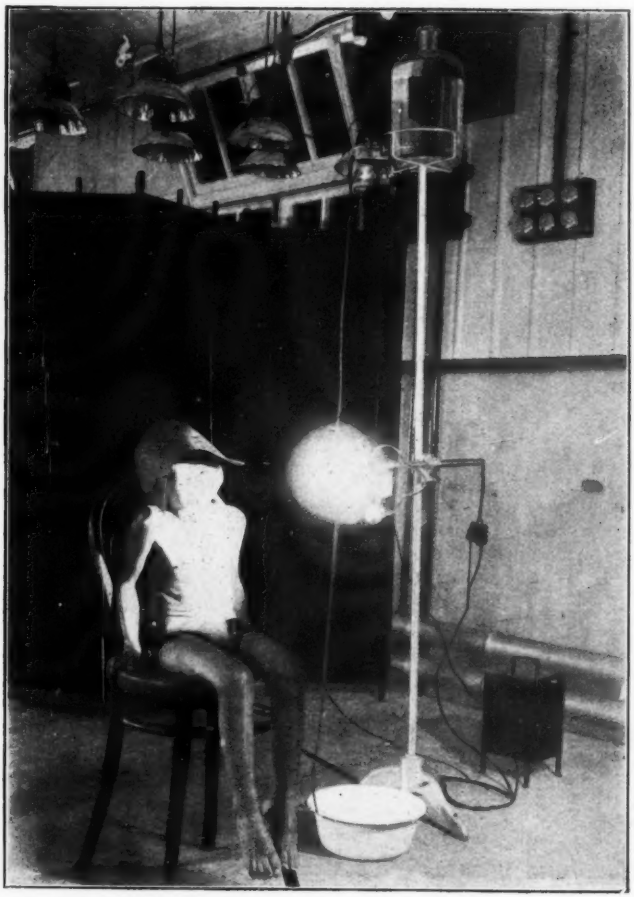
the metabolism of the patient receiving sun treatment has been not unnaturally ascribed to sunlight. This phenomenon is one of the utmost value in many cases, but the recent work of Leonard Hill and Argyll Campbell at Alton and Hayling Island, in Switzerland, and



A FINSEN-REYN LAMP FOR LUPUS.

under artificial conditions, has demonstrated that increased metabolic activity should rather be attributed to the effect of cold air on the nude skin than to light. Sea-bathing is perhaps the best means of increasing within safe limits metabolic activity. We should therefore largely rule out increased metabolic activity as the result of exposure to light;

not perhaps absolutely, as I cannot but believe that indirectly it does increase metabolic activity; but the work of these observers does appear to show very clearly that its direct effect is negligible. Increased metabolism cannot therefore be anticipated after artificial

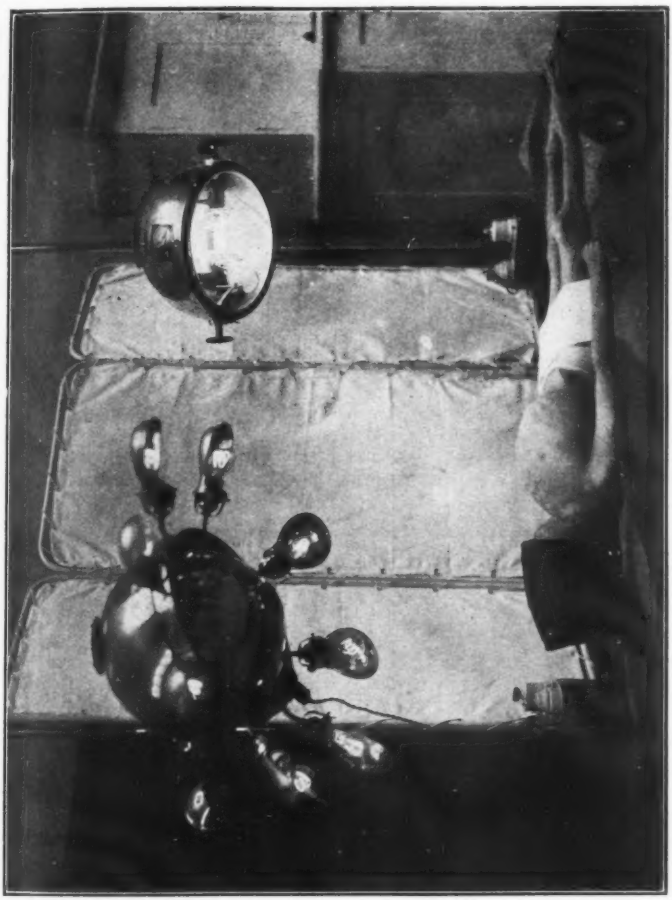


AN IRON ARC LAMP FOR LOCAL TREATMENT.

ight treatment. Ordinarily, therefore, the general artificial light bath would not be prescribed for this effect.

No form of artificial light quite accurately replaces sunlight. The term "artificial sunlight" is therefore best avoided. It is misleading if intended to imply that similar effects are obtainable by artificial light

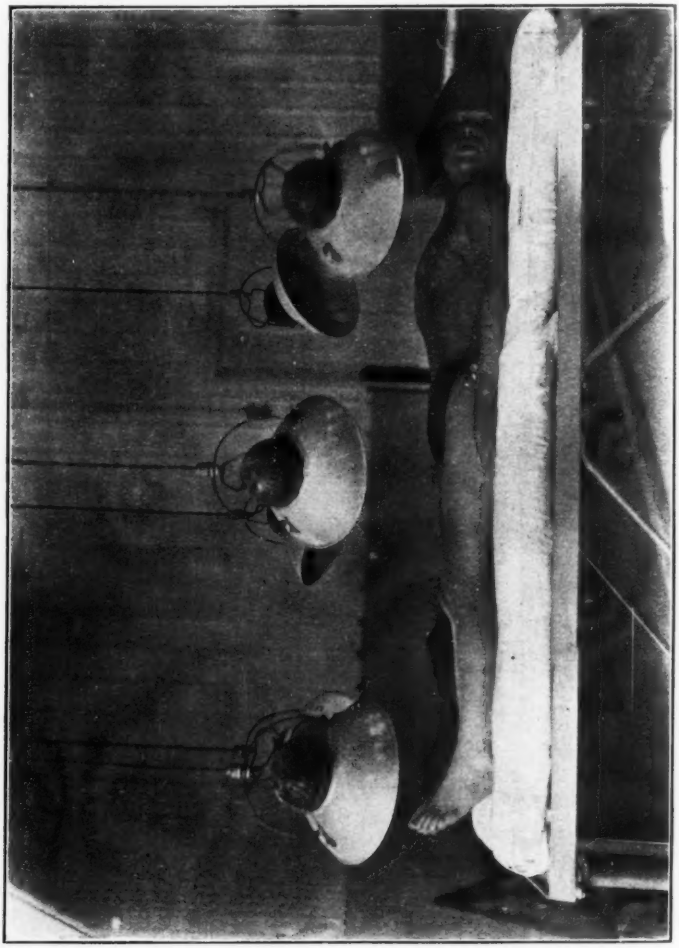
baths. In making this statement I do not wish it to be inferred that artificial light treatment is not as good as sun treatment. For the production of certain effects artificial light suitably employed is undoubtedly preferable to sun treatment. Thus in cachectic, weakly,



MERCURY VAPOUR LAMPS.

non-pigmenting patients I have found much greater benefit obtainable from small, carefully graduated exposures to suitable artificial light. These cases are always slow and tedious, and are often sent to Switzerland for its strong winter sun. This is quite wrong; such patients cannot at first usefully react to strong sunlight. It is prefer-

able to give short but increasing exposures to artificial light before attempting the natural sun cure. Again, where purely local light treatment is indicated light from artificial sources is generally to be

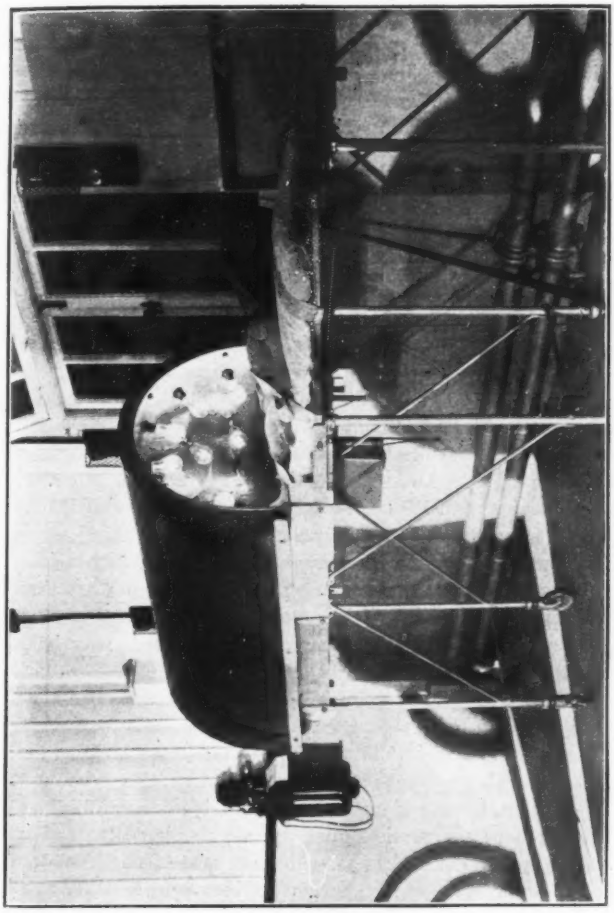


INFRA-RED RAYS.

preferred, though often it may be usefully associated with general sun or light baths.

It is generally admitted that the chemical rays in the sunlight are those most therapeutically active. Those chiefly responsible for

erythema are the short-waved ultra-violets and it has been inferred by some that these alone are of much therapeutic value. Consequently it is at present rather the fashion to use these short-waved rays to the exclusion of others. I believe this tendency to be wrong, and for the



THE TUNNEL (RADIANT HEAT, LUMINOUS RAYS).

general light bath sources of light most closely approximating natural sunlight is the best for most purposes. With Reyn I agree "that the carbon arc light must be the best, seeing that it is the one which most nearly resembles sunlight."[1] We have here a continuous light

[1] See "Acta Radiologica," vol. iv., fasc. 4; 15, vii. 1925.

spectrum, some of whose rays have great penetrating power. It is inferred because other effects have not as yet been clearly demonstrated that the longer-waved penetrating rays have merely thermal effects, but we should be guarded in adopting that view. I have been impressed with this clinical observation, that while the short-waved ultra-violet rays have a rapid initial action this effect appears to diminish speedily. I would suggest that this is due either to increased tolerance of the superficial cells of the epidermis to the stimulus to light or to their early exhaustion. Light waves of varying wave lengths have varying penetrability, and it would appear to be a reasonable hypothesis that reactions other than thermal and as yet not accurately described, but clinically obvious, may be attributed to cellular responses to light stimuli produced at different depths in the skin by rays which are absorbed at varying depths. The physical energy of light is then transformed into other forms of energy which may or may not be usefully employed by the body organism. Be that as it may, it is established that the light from the carbon arc is at present the best substitute for natural sunlight and the most likely to reproduce the effects of the sun. At the Finsen Institute two types of carbon arc lights are used—one of 75 ampères and another of 20 ampères. Precisely similar lamps obtained from Copenhagen are used in the Light Department at Alton, and of their therapeutic value as shown by clinical results I am well pleased. For a detailed description of the Alton Light Department I would refer to a paper entitled "The Organization and Work of a Light Department in a Hospital for Surgical Tuberculosis," *Lancet*, July 4, 1925, p. 10. The long flamed carbon arc lamp popular in this country is relatively richer in ultra-violet radiation than the Finsen lamp; shorter exposures are therefore needed, but it is by no means evident that these shorter exposures are clinically as valuable as the longer exposures which may be safely tolerated with the Finsen lamps. Deeper penetration is ensured by the Finsen lamps, and I believe such deeper penetration to be of real therapeutic value. With the 75-ampère lamp from six to eight seated patients may be treated simultaneously, as near to the lamp as the heat permits. As a rule exposures are given on alternate days, commencing with, for children, twenty minutes, and increasing by ten minutes to a quarter of an hour per session up to a maximum of two and a half hours. For recumbent patients two, in the case of children, or three, in the case of adults, 20-ampère carbon arc lamps are used, two patients being treated simultaneously, and details of exposure as with the 75 ampère lamps.

I rather like to intermit exposures. At the Finsen Institute exposures on the lines indicated are usually continued during the whole course of treatment. At Alton, after from two to three months' treatment, I am usually in the habit of resting the patients. Frequently

the patients are sent to Hayling Island; for change of air and scene and natural sunlight, combined with sun-bathing, is often ordered. In the winter the patients either rest or general treatment with the mercury vapour lamp is given, if intermission is indicated.

For the local treatment of sinuses, glands, or patches of scrofuloderma, mercury vapour, tungsten arc, or iron arc is often of value, each having its own indications.

It has been found of value in certain cases to give radiant heat baths (the tunnel) before general treatment with the mercury vapour lamp.

For the local treatment of lupus, no lamp has proved of such value in effecting pleasing cosmetic results as the Finsen or the Finsen-Reyn water-cooled carbon arc lamp, suitable water-cooled quartz applicators being used for different situations requiring treatment. In this condition large areas of the body, excluding the face, may often receive preliminary treatment with a water-cooled mercury vapour lamp of the Kromayer type. Special applicators for use with this lamp, which, on theoretical grounds, would appear to be advantageous, are being made to my design, but they have not yet been employed.

Finally I would urge that artificial light treatment should be undertaken only under informed medical guidance and with full and adequate equipment, manipulated by specially trained nurses. Careful records should be kept of all patients treated, and clinical experience aided by laboratory control should be our guide in an intriguing, but as yet insufficiently understood, method of treatment.

SOME OF THE PRINCIPLES UNDERLYING VILLAGE SETTLEMENTS FOR THE CONSUMPTIVE.

By P. C. VARRIER-JONES,

M.A., M.R.C.S., L.R.C.P.,

Medical Director, Papworth Village Settlement; Hon. Medical Director, British Legion Village, Preston Hall; and Lecturer, State Medicine Syndicate, Cambridge University.

The Editor asks me in his usual persuasive style to write on the latest development of the Village Settlement for Tuberculous Subjects, and he wisely suggests that the article should not exceed a certain number of words. It is well that he puts in this proviso, for the developments of the Village Settlement are so many and complex that little short of a book of no mean dimensions would suffice to do the subject justice.

In this short paper, however, I can only touch upon one or two fundamental principles underlying the scheme, without which Village Settlements cannot exist.

Village Settlements for "Consumptives" and other tuberculous cases have come to stay—nay, to advance to greater and greater strength as the principles on which they are founded become appreciated and better known. They have ceased to be an experiment. The Settlement at Papworth has been shown to be capable of reproduction, for at Preston Hall there is now a replica of Papworth, albeit without its many ramifications. The same spirit is being nurtured there, a plant of tender growth it is true, but with proper care and attention it will grow into a fine branching tree. The foundation of both settlements is the sanatorium principle, not narrowly applied, not kept in a watertight compartment, but free to exert its influence not only on the patient under treatment but on his family who live under like conditions. This point has been emphasized by the Ministry of Health, and Sir George Newman says: "Apparently we chose not to exercise to the full our powers of prevention; do we not thus sin against the light? . . . We know the healing effect of nutrition, sunlight and fresh air, and moderated exercise on tuberculosis, but tens of thousands of infected persons fail to practise them. There is even the sanatorium principle demonstrated before their eyes—in its most comprehensive and triumphant form at Papworth—yet they see not."[1]

But the principle has been grasped by all those medical officers of sanatoria who are themselves cases of pulmonary tuberculosis. They have in many cases selected that sphere of work in order that they may for the rest of their time live a life of ordered routine and of purposeful work in a specially sheltered community. The success with which this is accomplished is an outstanding example of the correctness of the Village Settlement idea. Is there any reason why the proper environment for the consumptive should be confined to the medical profession? I have never heard a physician give the following advice to a medical man suffering from tuberculosis: "You must give up your profession and take a job on a farm or set up a poultry farm," but I have had recommendations from physicians in respect of young medical men suffering from tuberculosis for posts on the medical staff at Papworth. At any rate, I know of no medical man having taken the "open-air-job" risk, but I know of many who are highly successful as sanatorium physicians and who live a well-ordered life, following for years a routine which the working man, on account of financial difficulties, can only follow for three to six months. In other words, they live in the environment best suited to their condition. Their economic future is

[1] See Annual Report of the Chief Medical Officer of the Ministry of Health, 1924, p. 249.

secure, their work is such as to suit their condition, their health is safeguarded, their housing conditions are ideal—in fact, they form the germ of a Village Settlement. (I wonder if they know it!)

PAPWORTH VILLAGE SETTLEMENT: THE MAIN STREET.
The cottages for the settlers stretch for a mile along the road—the old Roman way, Ermine Street.

Let us expand this idea to embrace not only the members of the medical profession but also others less fortunately placed in the social scale, and we have the Village Settlement for the tuberculous as illustrated at Papworth.

The example I have just given will serve the double purpose of answering a number of questions often put to me when showing visitors round the Papworth Village Settlement, and at the same time illustrating various principles which must be followed if success is to be attained. Further, the illustration will serve as an answer to criticism, which, although growing feebler year by year, is yet sufficiently clamorous to require notice—criticism as a rule by those who have never seen a Village Settlement, and whose notions of what they expect to find are as wide of the mark as they well can be. I must assume that my readers are familiar with my previous attempts to explain the formation of a Village Settlement, in two publications, in which I had the collaboration of the late Sir German Sims Woodhead and the late Sir Clifford Allbutt, for it would be tedious to go over the ground again. With these as a foundation we may with advantage try to carry the matter further.

The environment selected by the tuberculous medical man is selected by him because it is an environment suitable for his condition. This seems self-evident, yet it is frequently forgotten when we talk of setting up Village Settlements. It seems obvious, when we propose to set up an environment for the tuberculous, that the tuberculous should be the most important factor in that environment. It seems equally obvious that if the "consumptive" is the chief consideration in such a scheme, he should have full opportunity of making the best of such a situation. Yet, unless the greatest care is exercised, the favourable environment is seized upon by the healthy, and, as in the world at large, the victim of tuberculosis becomes the victim of fierce competition in his own walk of life! He is pushed aside, another rushes past; disheartened and without hope, he gives up the struggle of trying to help himself. Every hand which appeared to be for him is against him. Let me give a concrete example.

I have insisted again and again on the principle that the head of a workshop in a Village Settlement—the foreman or manager in charge of the work—should be an ex-patient, one who has had sanatorium treatment and one who desires to find an environment suited to his condition. For such a man, rescued from the impossible struggle to obtain suitable employment in the outside world, the environment which has been created becomes his world. He looks upon the workshop as *his* workshop. He knows that if it succeeds *he* will materially benefit; he has an incentive to do good work. If he fails and loses his job he knows there is nothing in the world outside the settlement at which he can be suitably employed. He thinks and feels about his work in that special environment exactly as we, the healthy, feel in our more varied environment. (Many visitors seem so surprised to find ex-patients at Papworth taking this view of life that I have tried to find

out their reasons. Curiously enough, the visitor seems to have decided that the "consumptive" is not as other men are.) He can look the future in the face; he has hope; he has independence; he has position;

PAPWORTH VILLAGE SETTLEMENT: THE TRUNK AND SUIT CASE MAKING DEPARTMENT.
Machinery is more essential in a tuberculous community than in the ordinary commercial world.

he has authority. The environment is his home—a wonderful thought; home with all its associations; something to work for, not an institution in which he is "placed" or to which he is "sent." He has a sense of security, as one who after a stormy voyage over unknown seas

finally reaches the harbour of his dreams, and not the harbour only, but home. I have been so impressed with the importance of this mental outlook in a village settlement, that I am convinced it is this mental outlook, which I try in vain to describe, that makes for success, nay, is success!

A community of such men can never be shaken or upset. Their combined forces withstand any destructive criticism that may arise. Criticism, indeed, simply serves to strengthen the cohesion. There may be little petty differences between the settlers in ordinary daily work, but the appearance of danger (in the form of a healthy competitor for work) from the outside world immediately closes the ranks. They are the same forces which bind the various sections of a country together and make them into a nation. The spirit of self-reliance, the feeling of possession, of security, the pride of home—these are the forces which bind together the Village Settlement, and once they are created, they move forward by their own impetus.

Let us suppose for a moment that our foreman or manager is a healthy person. He has an entirely different outlook. The Village Settlement to him is only one of many ways of earning his living; he is a hireling, a paid servant of an institution, he is here to-day and gone to-morrow. He has no difficulty in finding a job in the outside world, and his attitude towards the consumptive is apt to be that of a superior being. He knows that the consumptive is down and out; he treats him either with contempt or with a sympathy which sickens the recipient with its extravagance. There is no social intercourse between such a man and the "consumptives" whom he "teaches." During working hours he puts up with his charges, after working hours he is glad to get away and associate with his healthy brethren. When you ask such a man how far his pupils are progressing with their work, if he thinks you are an ordinary visitor, his reply will be: "Capital," "Getting on nicely," or some such phrase. If you say you are in the "same game," he will unburden his soul and confide in you to the effect that of course they are hopeless and how can anyone expect anything else? He feels, in fact, that he is engaged in a hopeless and painful task, but it is a "job" to be done—the hours are not long, and after all, it provides a living. It is a game worth playing. Fortunately, it is not expected to be made a paying proposition; if it were he would be off to pastures new. The Village Settlement means nothing to such a man, can have no meaning. It is not his home; he is only a member of the staff of an institution, and one institution is as good as another. With a mental outlook of this kind, success can never be attained. Money—the expenditure of lots of money—does not make a Village Settlement; the spirit which pervades the whole community, the earnest desire, the right direction of hope—these are the foundation stones and

the motive force of the Village Settlement. What I have said of the "consumptive" foreman applies equally to the "consumptive" physician, who may be the successful superintendent of a sanatorium,

PAPWORTH VILLAGE SETTLEMENT: THE UPHOLSTERY DEPARTMENT.
These chairs are made in a hygienic workshop fitted with modern appliances.

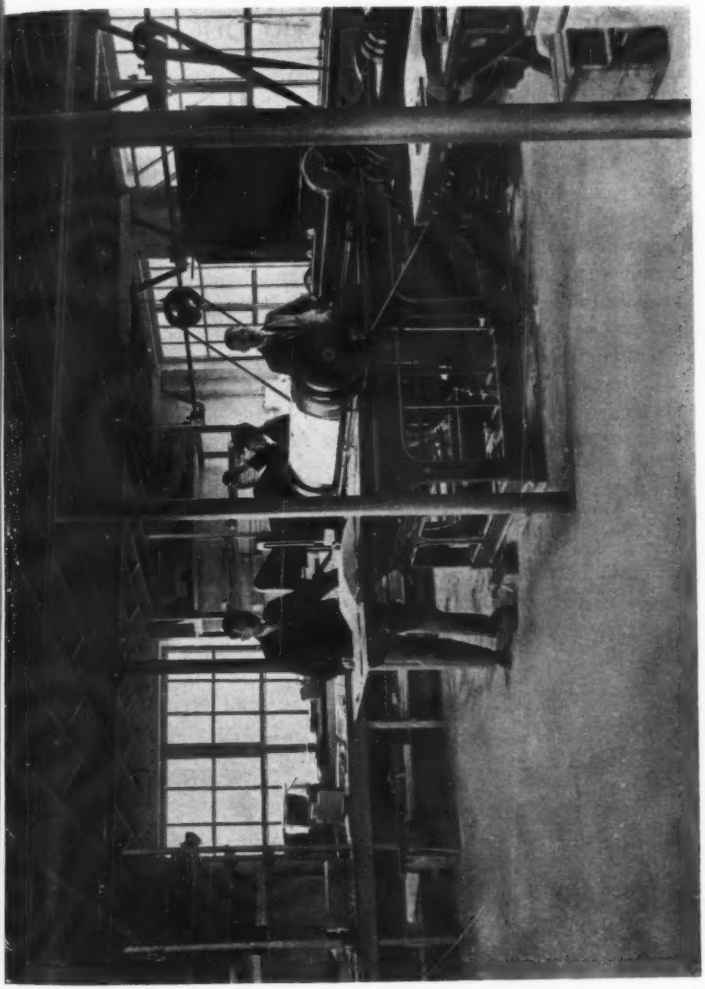
although he is suffering from the same disease. Those who have experienced the spirit of such a man will never forget that experience, and it is the appreciation of the lesson so learned that will enable us to build on firm and solid foundations.

From what I have said, it will be evident that a Village Settlement is not an institution in the accepted sense of the word, and it can hardly be described better than by calling it an environment, in which various forces act and interact in such a way that the resultant is used solely for the benefit of those whose condition demands a sheltered existence.

Now a sheltered existence cannot be manufactured out of hand. It must be of gradual growth. We cannot say: "I have made a sheltered existence for you, enter and be satisfied." No man can do anything of the kind. What we can do and must do is to provide an opportunity for the creation of a sheltered existence for the sub-standard man—an entirely different proposition, and it is the provision of this opportunity which is either not understood at all, or only partly understood by those who will not rid their minds of an institutional régime. In the proceedings of every conference on tuberculosis which I have ever read, I find a pious expression of opinion as to proper housing conditions for the tuberculous. Have we really seriously thought of providing the opportunity for such housing on a scale that can possibly make any mark on the problem? It is no good providing a house when the man has not the wherewithal to pay the rent! His place is soon taken by a healthy wage-earner who can do so.

To provide the opportunity of finding work suitable to the condition of the tuberculous workman is a task of supreme importance, and my illustration of the tuberculous sanatorium physician I must use again because it makes the point clear to us all. *He* has found the right environment: has the labourer, the carpenter, the printer, the leather-worker, and a host of others, ever been given a similar opportunity until the advent of the Village Settlement? The success of the sanatorium physician in maintaining his health is due to a solution of a complex of conditions. He would not be the success he is if one of the factors were missing. However good his working conditions were, however short the hours and however light the toil, success would not be obtained if he were compelled to spend the rest of his day in a slum dwelling which he reached after a tedious journey by tram, bus, and train. My reader will say with a shrug of the shoulders, "That's obvious," yet I reply that that is what we propose when we advocate workshops in the heart of our great cities. Add to this the healthy instructor and our defeat is certain to be swift and sure. Is it not time we faced the matter squarely? Let the tuberculous man, and no other, be the man who is given the opportunity of shouldering responsibility and showing initiative. Let us be careful that our methods are not tinged with politics, let us steer clear of camouflage. Let us make up our minds that whatever difficulties we have to contend with, the man to be safeguarded and shielded from such difficulties shall be the sub-standard man, the infectious case of pulmonary tuberculosis. He it is who cries out for the opportunity of making good. Shall we provide it

or shall we not? There can be no satisfactory halfway house. Once you have provided the genuine opportunity there can be no turning back. You have released forces that nothing can keep in check. They



PAPWORTH VILLAGE SETTLEMENT: THE PRINTING DEPARTMENT.
This illustration shows work in progress in the machine shop of the printing block.

go on from strength to strength. That a community of consumptives should grow to such dimensions as at Papworth is beyond what I had imagined in my wildest dreams. I can see no end in sight. It is the spirit of the wounded man triumphing over his adversity.

THE EFFECTS OF STRONG PREVALENT RAIN-BEARING WINDS ON THE COMMONNESS AND ON THE COURSE OF PHTHISIS: HOW ARE THEY PRODUCED?

By WILLIAM GORDON,

M.D., F.R.C.P.,

Senior Physician to the Royal Devon and Exeter Hospital, and Physician to the West of England Eye Infirmary.

After twenty-five years of careful research, carried out by several methods and in many areas, into the effects of strong prevalent rain-bearing winds on the commonness and on the course of phthisis, it can be confidently asserted: (*a*) That populations exposed to these winds suffer more (often much more) from phthisis than populations sheltered from them; and (*b*) That phthisis patients living in localities exposed to these winds have a higher (often a much higher) death-rate and a lower (often a much lower) recovery-rate than patients living in shelter from them.

Independent confirmation of the first fact (*a*) has been furnished by Dr. John Brownlee, in his well-known report to the Medical Research Committee,[1] and recently, by Sir Leonard Rogers, in an important paper.[2]

The second fact (*b*), which so closely concerns every phthisis patient and so profoundly affects the proper choice of sites for phthisis sanatoria, has also been independently confirmed by Dr. A. C. Watkin, Tuberculosis Officer for West Shropshire, who supplied me with the following figures:[3]

Table I.—West Shropshire (72 Cases).

Sanatorium Cases; First Stage; after Four Years.

	Mortalities.		Arrests.	
	Exposed.	Sheltered.	Exposed.	Sheltered.
	Per cent.	Per cent.	Per cent.	Per cent.
Males	31	8	31	41
Females	29	14	33	57
T.B. Cases only, males and females together	54	25	9	12

[1] Brownlee, J.: "An Investigation into the Epidemiology of Phthisis in Great Britain and Ireland." Part III. Pp. 42-46. London, 1920.

[2] Rogers, Sir Leonard: "Tuberculosis Incidence and Climate in India: Rainfall and Wet Winds," *British Medical Journal*, February 7, 1925.

[3] Included in my Address on "Wet Winds and Early Phthisis," *British Medical Journal*, November 29, 1924.

The Superintendent, also, of the Derbyshire Sanatorium has sent me his results for Derbyshire (unfortunately only after two years' observation), dividing the county into three districts, of which District A, the most northerly, is the rainiest and the most wind-swept.[1]

TABLE II.—DERBYSHIRE (122 CASES).

Sanatorium Cases; First Stage; after Two Years.

	Mortalities.
District A	6 per cent.
District B	0
District C	0

The recently published figures for Devonshire[2] have now been very carefully revised, with the help of the Medical Officers of Health, and the results are such as to compel attention.

TABLE III.—DEVONSHIRE (163 CASES).

Sanatorium Cases; First Stage; after Four Years.

	Mortalities.	
	Exposed.	Sheltered.
	Per cent.	Per cent.
North Devon:		
Males	44	0
Females	26	0
East Devon:		
Males	33	0
Females	27	0
South Devon:*		
Males	35	20
Females	16	0
All Devon:		
+T.B. cases only, males and females together	57	14
	Arrests.	
North Devon:		
Males	16	100
Females	20	100
East Devon:		
Males	8	36
Females	50	82
South Devon:*		
Males	7	30
Females	8	10
All Devon:		
+T.B. cases only, males and females together	12	43

* Torquay, Newton Abbot, Paignton, and Brixham omitted because of difficulty of assessing shelters and exposures.

[1] *Ibid.*

[2] *Ibid.* See also *The Medical Officer*, April 12, 1924, p. 158.

We may now attempt to answer the question: *How are these remarkable effects produced?* Hitherto I have carefully refrained from trying to explain these effects, because one knows how an erroneous guess may introduce confusion. But now that the facts are firmly established, explanation becomes desirable. At present it is only possible to *suggest*. I would therefore *suggest* that *such evidence as we possess points to some direct action of these winds on the individuals exposed to them.*

And now as to the *action direct on persons exposed.* In the early days of this investigation, it was suggested by certain arm-chair critics that the winds produced their effects indirectly through some effect upon the houses. One theory was that the winds caused *ill-ventilated houses* by compelling the inhabitants to close their doors and windows against them; a theory which overlooked the fact that doors and windows were not all on the western sides of the houses, as well as the further fact that the winds were not continually blowing. I do not think that this theory is now seriously held. Another (perfectly reasonable) idea was that the winds made *damp houses* by driving wet into the walls. I have brought forward an argument based on an examination of the streets of Exeter.

The Argument of Exeter Streets.

In order to study the effects of these winds *under conditions where they did not blow directly against the houses but only past them, so that they could not be said to drive wet into the walls,* I examined the female phthisis death-rates in the streets of Exeter [1] (where also most of the houses have walls which prevent wet being driven through them) and found that those streets suffered most *along whose roadways* these winds blew freely.

The Argument of Soil.

Since dampness of soil is a well-known potent cause of damp houses, its influence as a producer of phthisis should at least closely approach that of wet winds, if dampness of houses is the explanation of the influence of these winds. But, on the contrary, I have repeatedly shown [2] that the influence of soil is much less powerful in its effects on phthisis prevalence than the influence of wet winds. So much greater, in fact, is the influence of wet winds, that it is useless to try to investigate the influence of soils on phthisis-prevalence except in shelter from these winds.

Observation of Patients.

My first patient submitted to "open-air treatment," many years ago, was placed in a small ward with wide-open windows facing south-west.

[1] "The Influence of Strong, Prevalent, Rain-bearing Winds on the Prevalence of Phthisis," pp. 52-63. London: Lewis and Co., 1910.
[2] *Ibid.*, pp. 26-29.

He soon became so much worse that I had him removed into another ward away from such exposure, where he at once began to improve. Naturally, I have not repeated the experiment. But since then I have had many opportunities of seeing the disastrous results of keeping patients so exposed.

Results of the Investigation of Dr. Adkins and Dr. Date.

A valuable investigation has just been carried out by the Medical Officers of Health for Devon, who have personally inspected many houses of patients dealt with in the foregoing Devon table, in order to ascertain how far the houses themselves were sheltered, apart from their surroundings. Six of these houses have been pronounced "sheltered" by them, but so that the patients living in them could not walk out for, say, 100 yards, without emerging into exposure to the westerly winds. The results in these six houses, despite such very small numbers, are instructive.

HOUSES SHELTERED, BUT PATIENTS EXPOSED ON GOING OUT OF DOORS.

Parish.	Sex.	Result after Four Years.
Tavistock	M.	Dead.
Sherford	M.	Dead.
Plympton	M.	Alive; not arrested.
Bere Alston	F.	Alive; not arrested.
South Brent	F.	Alive; not arrested.
Honiton	F.	Alive; not arrested.

Here there is no indication of benefit to the patient from mere house shelter.

The Analogy of Pneumonia.

Moreover, there is nothing inherently unlikely in the notion of a direct action of wind promoting disease. It has long been popularly supposed that pneumonia may be contracted by "catching a chill" from exposure to a cold wind, and the north-east wind in this country has had a bad repute in this respect.

Suggestive of some relation of pneumonia to north-east wind was the curious contrast between the distributions of phthisis and pneumonia in the United States of America, shown in the maps published by me in 1910.[1] The question was there obviously suggested that if exposure to south-west wind has something to do with the distribution of phthisis, may not the north-east wind have something to do with the almost reverse distribution of pneumonia? So I set to work to find out, in

[1] *Ibid.*, p. 92.

the rural district of Okehampton[1] (on a very small scale, it is true), whether a relation existed between east and north-east winds and the distribution of pneumonia, as I had already found a relation in that district between west and south-west winds and the distribution of phthisis, and I found that such a relation between easterly winds and pneumonia did appear to exist. But obviously much larger figures were necessary before any safe conclusion could be drawn. These larger figures (with the added safeguard of specially reliable statistics) have been furnished by Sir Leonard Rogers in his very interesting paper on "Pneumonia Incidence and Climate in India,"[2] where he remarks that "the pulmonary tuberculosis distribution is almost the opposite of that of pneumonia," and makes it evident that the action of great diurnal variation of temperature, combined with a low minimum in the cold season, together with a very low degree of humidity and including cold north winds, are the main causes of the incidence of pneumonia, and that this action of climatic factors is mainly at least direct on the individuals exposed to them. Few will be disposed to argue that a dry house is a cause of pneumonia!

But if we admit that a cold dry wind may cause disease by a direct action on individuals exposed to it, why should we deny that a strong wet wind can also set up disease by direct action?

The Analogy of Malaria.

In his well-known work on Tropical Diseases,[3] Sir Patrick Manson wrote in 1900: "Stanley says that so long as he and his companions were ascending the Congo, the wind being with them and therefore not much felt, they did not have fever; but that, on descending the stream, a strong breeze blowing in their faces and chilling them, they constantly had attacks. The physiological depression and disturbances caused by the cold wind paralysed the self-protecting power of the body, and permitted the hitherto latent plasmodia to get the upper hand. And so it is found, in the highly malarial districts of tropical Africa, that houses perched on elevated and windy situations are not so healthy as those on lower and therefore less exposed and more sheltered ground. . . . The wind merely acts as a cause of physiological strain, of chills."

Here again, however we may choose to explain it, is clearly an instance of a direct effect of wind on the individuals exposed to it, giving rise to disease.

[1] See the Author's Hyde Lectures on "The Place of Climatology in Medicine," p. 13. London: Lewis and Co., 1913.

[2] *Lancet*, June 6, 1925.

[3] Manson, Sir Patrick: "Tropical Diseases," pp. 120, 121. London: Cassell and Co., 1900.

Conclusions.

Taking into account, then, the foregoing facts:

1. That direct impact of wind on persons exposed can excite disease;

2. That house-shelter from wet winds does not seem to protect phthisical patients who are exposed when out of doors;

3. That personal exposure out of doors predisposes to phthisis even when the houses are not exposed;

4. That dampness of houses caused by dampness of soil has much less effect in predisposing to phthisis than exposure of the district to wet wind;

it seems at least very probable that the proved influence of these strong prevalent rain-bearing winds is due to some direct effect produced on the persons exposed to them, rather than to any indirect influence exerted through their houses, and actual experience bears out that view.

WORKSHOPS FOR THE TUBERCULOUS.[1]

By NOEL DEAN BARDSWELL,

M.V.O., M.D., F.R.C.P.,

Principal Assistant Medical Officer in the Public Health Department of the London County Council; formerly Medical Superintendent, King Edward VII. Sanatorium, Midhurst; Author of "The Consumptive Working Man," etc.; Member of Committee of the Central Fund for the Industrial Welfare of Tuberculous Persons.

Tuberculosis is a medico-sociological problem, and no solution is possible which neglects the consideration of economic and industrial factors. The following brief notes are intended to convey some idea of an interesting experiment for the provision of work for tuberculous men which is now in course of development in connection with the Spero Leather Factory in Hatton Garden, Holborn. All the workers are suffering from tuberculosis of the lungs. This is the first work centre of its kind to be established in London, and, so far as I know, the first in this country. The factory was opened in 1922 by the Central Fund for the industrial welfare of tuberculous persons. This employment scheme consists of three units—(*a*) The central office and show-rooms at Denison House, Vauxhall Bridge Road; (*b*) the specially arranged hygienic factory at 10, Cross Street, Hatton Gardens, W.C.; (*c*) the training centre at King George V. Sanatorium, Godalming, from the patients of which institution employees for the factory are recruited.

[1] Résumé of a speech at the Holborn Health Week Conference, October 7, 1925.

The factory makes high-class fancy leather goods—*i.e.*, purses, bags, wallets, etc.—and sells in the open market. The full complement of the factory is 23 men. At present there are 22 employees, of whom 11 are ex-service men. Five of the men are married. The minimum rate of wages to trained men is 8¼d. per hour, or 30s. a week, the same rate as prevails in the Lord Roberts workshops. On increased efficiency the rate is raised. For the current week the wages for the trained men varies from 44s. to 30s. 3d. The men prefer payment per hour to piece-work. Working hours are from 8.30 a.m. to 5.30 p.m. with one hour's interval for dinner and ten minutes for lunch. On Saturdays the factory closes at midday. Two weeks' holiday on full pay are allowed.

The principles of organization and the methods of administration have been carefully worked out. The workshop and business generally are managed by a committee of five members, appointed by and responsible to the Council of the Central Fund. The members of this committee, which has the widest powers, are Dr. Chapman of the Ministry of Health; Dr. Wilson, late technical officer, Ministry of Pensions; Colonel Cowell, an experienced man of business, formerly connected with Lever Brothers; an employee of the factory nominated by his fellows; and myself. A highly-skilled leather-worker is responsible for the routine work in the factory. The medical supervision of the employees is exercised by their usual medical attendants, in association with the Tuberculosis Officers of the various boroughs, with whom I also am in constant touch.

The social welfare of the men and their dependants is looked after by a small informal committee. Owing to the relatively low wages that can be earned, financial difficulties continually call for attention. On the social side of its work, the Central Fund have found invaluable helpers in the British Red Cross, the Charity Organization Society, the various Borough Care Committees, and other social service organizations.

So much for the organization of the factory. Now as to what we have learnt in the course of some three years' experience. These points can be succinctly summarized: (1) The organization of employment for tuberculous persons is a practical proposition. The training of tuberculous persons for a skilled trade, however, is not generally possible. Were the Central Fund to begin over again, they would not choose a skilled trade, such as leather work, but rather some trade demanding the minimum of training in which the output of workers can be assisted by the use of simple machinery. This lesson of the Fund's experience cannot be too strongly emphasized. (2) Medically speaking, tuberculous persons working in a city factory, under conditions such as can be seen in Hatton Gardens, do very well. We have

all been impressed with the way in which the workers, all definite cases of pulmonary tuberculosis, many of them serious cases, have maintained their health or improved. As a means of after-care, the success of the factory is fully proved. (3) Upon the most important question of cost of the scheme, I cannot speak so dogmatically. The business is young, and, though growing, has a long way to go before it can be considered to be established. Perhaps only those who have tried to start a new business at a time of general commercial depression can appreciate the many difficulties. Markets are shy, and competition relentless. Add to this the handicap of employees whose output is lower and slower than that of their competitors, and you have an obviously difficult problem to solve. Before anything else, a factory for tuberculous persons wants a certain and constant sales for its products. This should be the first consideration of the promoters of any scheme of employment. To return to the finance of our factory. The rent of the premises is £150 a year; gas, heating and cleaning costs £90 a year. The cost of altering and equipping the factory was £400. The salary of the workshop manager is £350 per annum. Broadly speaking, the income from sales of goods, at present, covers the whole amount paid in wages to the employees, and the cost of raw materials used in the factory—leather, etc. All other expenses, such as rent, taxes, insurance, wage of manager, office expenses, and assistance to the employees, have to be met from other sources. I cannot give an exact figure, but it is over £1,000 per annum. In short, as everyone knows, a factory for the partially disabled must be subsidized, but it is surely a wise expenditure which maintains in health and work those who otherwise would be sick and without the means of work. I leave it to others to urge the claims of work centres upon social and philanthropic grounds. I will invite those in doubt to visit the Spero Workshop. It is a heartening sight to see twenty-two consumptives happily at work, and to realize the gloom of unemployment, sickness, and hopelessness from which the workshop has rescued them.

ASSOCIATIONS AND INSTITUTIONS.

THE DERBYSHIRE SANATORIUM.

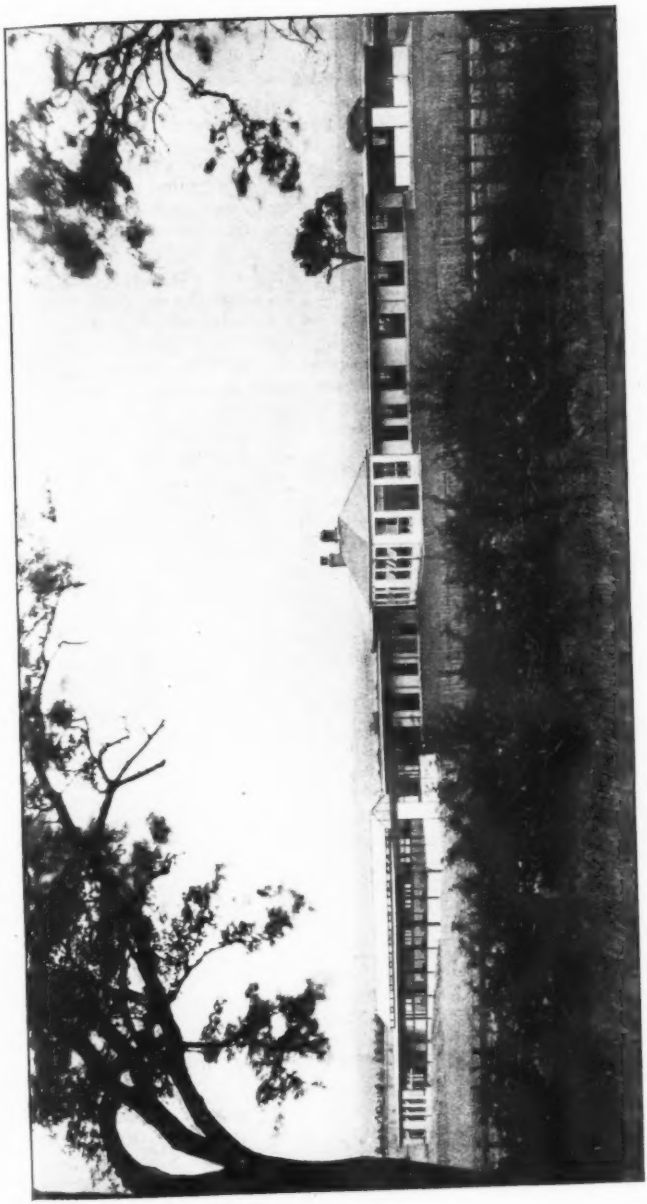
DR. A. NIVEN ROBERTSON, Medical Superintendent of the Derbyshire Sanatorium, has favoured us with the following notes of the Sanatorium which provides for tuberculous cases in Derbyshire:

The Derbyshire Sanatorium is situated at Walton, about one mile from the town of Chesterfield. It serves as the County Sanatorium for the whole of Derbyshire. There are 132 beds, to which men, women, and children are admitted. Through the foresight of the late Dr. Sidney Barwise, the Sanatorium is very well equipped, and includes an up-to-date operating-theatre, a dental-room, and X-ray department. There is also an open-air solarium with equipment for the employment of radiation by artificial sunlight; in it are installed a quartz mercury vapour lamp, a Tungsten arc lamp, and a radiant heat lamp. It is also used for outpatient work. Besides the solarium, a portable ultra-violet lamp is provided for use at any bedside. It is hoped in the near future to increase the accommodation by the addition of twenty beds for advanced cases met with in women. An open-air school has been provided for children.

With the beginning of 1926 there come into operation instructions issued by the Ministry of Health (Memorandum 37/T, with Tables I., II. and III.) to local Authorities responsible for the treatment of tuberculosis, providing for uniformity in records and statistical returns. It is to be hoped that a higher standard of efficiency may result, and that in future more reliable and informing statistical data will be available.

The Scottish Board of Health have just issued an Interim Report on Artificial Light and X-ray Therapy, prepared by Drs. Lewis D. Cruickshank and Ernest Watt. It is a valuable communication which merits the study of all making use of actinotherapy and radiation in the treatment of tuberculosis.[1]

[1] Copies of the Report can be obtained from H.M. Stationery Office at 120, George Street, Edinburgh, and Adastral House, Kingsway, W.C. 2. Price 1s. net.



THE DERBYSHIRE SANATORIUM: THE MEN'S PAVILION.

NOTICES OF BOOKS.

THE COMPLEMENT FIXATION TEST.

Dr. Achille Urbain has written an excellent account of the principal modifications of the complement fixation test as applied in tuberculosis.[1] It should be of great use to laboratory workers as a means of ready reference where the methods of preparation of the better-known antigens are sought or where exact technical details are required. Of particular value, for instance, is the note on the latest method of making up Besredka's egg-medium for the Besredka antigen; while the accounts given of the fixation tests of Calmette and Massol, Petroff, Boquet and Negre, Wassermann, and others, are brief, accurate and informing. It would be idle to attempt to summarize these methods in a review such as this, but the volume comes aptly at a moment when the practical value of the fixation test in tuberculosis is being hotly debated. In a short and interesting preface, Besredka discusses this question and exhibits a certain degree of irritation towards the clinicians who have not, so far, shown any great enthusiasm for the test. The fact remains, though, that some of those who have given a great deal of time and trouble to applying the test and evaluating it from the point of view not only of the clinician, but of the laboratory worker, remain doubtful as to whether it is entirely satisfactory. Armand Delille, Hillmand and Lestoquoy, for instance (1922), while recording 85 per cent. of positive findings in 177 patients with tubercle bacilli in the sputum, are not very ardent advocates of the fixation test. Besredka, in his preface, states that the reaction, "when positive, is capable of transforming doubt to certitude; when negative, it can dissipate the 'tuberculophobia' which is now so common." This claim, especially in the stress which it lays upon the value of a negative finding, is harder to defend than the more temperate views of Kuss and Rubenstein, quoted appreciatively by the author as follows: "A negative reactive does not exclude tuberculosis, but a positive one is strong evidence in favour of the existence of a tuberculous lesion possessing a certain amount of activity." It would appear that, in the hands of the most reliable workers, employing a good technique, known cases of pulmonary tuberculosis give about 90 per cent. of positives and cases without any clinical signs of tuberculosis give about 90 per cent. of negatives. This implies that about 10 per cent. of *known* cases are negative and a similar percentage of healthy persons positive to the test. If we were dealing with a disease like typhoid fever, we might claim these results as just as good as those given by the Widal reaction. But in pulmonary tuberculosis we can make certain of the diagnosis in over half the cases by sputum examination alone, and can establish the nature of many sputum-negative cases by a careful correlation of the results of X-ray photography, physical signs and tuberculin tests. The number of cases which remain for serological investigation, while relatively small, represents an important

[1] "La Réaction de Fixation dans la Tuberculose." Par Achille Urbain. Pp. 114. Paris: Masson et Cie. 1925. Price 12 fr.

group since it contains many of the early cases for which an accurate diagnosis is all-important. Unhappily it is just amongst these early cases that the fixation test shows its highest proportion of failures. It would, however, be absurd to decry this test as without clinical value. There is no doubt that a certain number of cases come to the notice of every clinical worker at tuberculosis in which, although the physical signs, radiograms, history and symptoms are exceedingly suspicious, a constantly negative sputum keeps alive a strong element of doubt. Here a clear-cut positive to the fixation test, especially if the Wassermann is negative, will go far to clinch the diagnosis, while a negative will add to the significance of the sputum report. It is probable that further research on the nature of the antigens of the tubercle bacillus and the antibodies evoked by them will lead, in the future, to great improvements in the fixation technique. In the meantime, we can strongly recommend Urbain's book to all who are interested in the serology of tuberculosis.

S. Lyle Cummins, M.D.

THE PHILOSOPHY OF EXPERIMENTAL MEDICINE.

Dr. Much, of Hamburg, has written what may be termed an excursion into the philosophy of experimental medicine.[1] He writes as much for the lay reader as for the physician interested more in problems than in facts. Recognizing how the loose use of words has often been misleading in the progress of science, he lays stress upon the necessity of employing words which have a definite meaning, a proviso that has, of course, often been enjoined before. How far the author succeeds in this himself would doubtless be a matter of opinion; but when disease is defined as a destruction of equilibrium, the statement, albeit from some points of view a manifest truth, does not seem to lead very far. Much sees in life a sequence of action and reaction with environment, and in disease a modification of the normally even course; the manifestations of disease may appear as changes in the plus or minus sense, according as stimulation or weakness is evident. Some of the more intimate understandings of signs of disease are sought in the behaviour of such chemical substances as split off from microbe and tissue. An attack is made upon the validity of conclusions drawn from experiments upon the lower animals; it is considered that reasoning in such a direction is necessarily illogical, but this position must seem untenable to most students of the history of experimental pathology and therapeutics.

R. G. Bannerman, M.D.

A FRENCH TREATISE ON PULMONARY TUBERCULOSIS.

Dr. Brunon of Rouen has recently published an elaborate work on pulmonary tuberculosis.[2] The second part of the title gives a clue to

[1] "Moderne Biologie," Heft 9, "Aphorismen zum Heilproblemen." By Hans Much, of Hamburg. Pp. 101. Leipzig: Verlag von Curt Kabitysch. 1925. Price M. 2.70.

[2] "Causes, Prophylaxie et Traitement de la Tuberculose Pulmonaire: Maladie Évitable et Curable." By Dr. Raoul Brunon, Professor de Clinique Médicale, Directeur de l'École de Médecine de Rouen. Pp. 624, with 28 figs. Paris: Gaston Doin, 8, Place de l'Odéon. 1925. Price 35 frs.

its contents, while the first part must be considered misleading. If the practitioner expects to find an erudite summary regarding all possible means for the spread of the contagion, and if he desires to ascertain the latest views respecting early diagnosis and to find an epitome of the most recent advances in the treatment of tuberculous disease of the lungs, he will go empty away. If, however, he wishes to be convinced that tuberculosis is a preventable disease, his desire will be gratified: he will, however, discover that its conquest involves a revolution in our customs, especially those of the French people. The author appears to admire and approve many ways and things English. The book is certainly interesting, and contains a host of facts, and, as I venture to think, some fallacies. It is, indeed, very much of a long armchair monologue on the social aspect of the subject. We learn how the daily regime of the French schoolgirl's life compares with that of her English sister, and are astonished to ascertain how unfavourably it does compare. We learn that alcoholism is the chief predisposing cause of tuberculosis; we read about eggs, over a page and a half of letterpress, and are told that Paris devours 30,000 tons of eggs per annum; and there are also unnecessary details about butter and vegetables and so forth, extending over a hundred pages. The chapters on differential diagnosis are disappointing, tracheo-bronchial adenopathy, local pulmonary œdema, and chronic appendicitis alone being discussed. Various cures and institutions for treatment are described. In fact, the author wanders from Pythagoras to Varrier-Jones in a pleasant kind of way, and at the end one feels that the journey might have been even more pleasant if considerably shortened. There is a eulogistic appreciation of Papworth Hall Colony and of its energetic medical director. The problem of tuberculosis, Dr. Brunon rightly claims, has become a social question, and its elucidation is not to be revealed merely by laboratory researches, but must be met by a nation mobilized against the disease.

F. G. CHANDLER, M.D. (Cantab.), F.R.C.P. (Lond.)

A STUDY OF BACTERIOLYSIS.

Haim's monograph[1] upon bacteriolysis contains in small compass an account of present-day knowledge of a subject which is of great interest to pure bacteriologists and which, moreover, gives some promise of therapeutic application. The importance of the subject is emphasized by the suggestion that in the lytic process in the test-tube we have in some measure an opportunity of studying in this "miniature" of disease the process whereby organisms are lysed into chemical bodies which, while unable to propagate like the parent organism, can nevertheless provoke the development of anti-substances. The matter concerns chiefly the much-discussed phenomenon of d'Hérelle and the discoveries of Much. The major part of the book deals with the work of Much and his pupils, who found that when a piece of agar on which is growing the *B. mycoides* is placed on the surface of broth turbid from the growth of the *B. dysenteriæ*, the continued growth of the first-named organism is followed by a progressive clearing of the broth and the associated

[1] Series "Moderne Biologie," Heft 8. "Backteriolyse Einsichten und Aussichten (Mit Besonderer Berücksichtegung der d'Hérelle-und Much-Lyse)." By Dr. Arthur Haim. Pp. 77. Leipzig: Verlag von Curt Kabitzsch. 1925. Price M. 2.

destruction of the dysenteric organism. Much's lysis, however, is to be distinguished from d'Hérelle's bacteriophage. A number of cases are recorded in which a vaccine suggested by these observations was employed in treatment: dysentery and typhoid have been handled in this way. Tuberculosis has also been attacked, but it is recognized that longer time must elapse before conclusions can be drawn.

R. G. BANNERMAN, M.D.

THE FRIEDMANN METHOD OF TREATING TUBERCULOSIS.

Dr. Victor Bock has prepared a concise and clear explanation of the aims and objects of the Friedmann treatment of tuberculosis.[1] This consists in the injection into the human body of tubercle bacilli, which are serologically and culturally different from other strains of tubercle bacilli developing in cold-blooded animals. They form a different species of acid-fast bacilli, and hold a median position between virulent tubercle bacilli and acid-fast saprophytes: they are incapable of producing tuberculous lesions in the human body. Dr. Bock describes very clearly the character of the bacilli employed, the mode of treatment, and the aims and objects of the treatment. The Friedman treatment aims at securing arrest of the disease in all forms of tuberculosis, and it is claimed that it may also be employed as a prophylactic vaccination in healthy children of tuberculous families. The results of this treatment are still under much discussion, but its advocates and adherents seem to be becoming more and more convinced of its utility. Certainly Dr. Bock's brochure describes very concisely and clearly this branch of specific therapy.

BERNARD HUDSON, M.D.

A STUDY OF SANATORIUM CASES.

DR. GUINARD has produced a work which provides much interesting statistical information of the after history of patients treated in sanatoria and in whose sputum tubercle bacilli were found.[2] The figures were obtained from sanatoria in all parts of the world; percentages are given of the cases who were surviving after many years. The tables are arranged under different classifications: on experience gained by a classification according to the three degrees of the Turban-Gerhardt nomenclature; the capacity for work; and the constant or inconstant presence of tubercle bacilli. Cases from the Bligny Sanatorium, situated near Paris, have been followed up with great care. and interesting clinical records are given of the survivors, and, in some cases, actual radiographs of the chest are presented showing the conditions ten or fifteen years after leaving the sanatorium. The author in his final

[1] "Die Friedmann-Methode: Kritisch beleuchtet unter Berücksichtigung der gesamten Friedmann-Literatur." Referat erstattet im Auftrag des staatlichen Ausschusses zur Prüfung des Friedmannschen Heil- und Schutzmittels gegen Tuberkulose. Von Sanitätsrat Dr Victor Bock, Facharzt für Lungenkrankheiten in Berlin. Mit einem Vorwort von Geh. Rat Prof. Dr. F. Jessen-Davos (Schweiz). Pp. 157. Leipzig: Verlag von S. Hirzel. 2, Königsebasse. 1922. Price M. 4.80.

[2] "Avenir Éloigné de la Tuberculose Pulmonaire, chez 831 hommes cracheurs de bacilles suivis au Sanatorium de Bligny." By Urbain Guinard. Pp. 214. Paris: Grande Librairie Médicale Maloine. 1925.

summary arrives at the following conclusions: Of those who cough up tubercle bacilli, 25 per cent. will be alive after ten years, and 18 per cent. after twenty years. Taking all sanatorium cases with or without tubercle bacilli in the sputum the mortality stands at about 50 per cent. The highest percentage of deaths occurs in those who leave the sanatorium still having tubercle bacilli in the sputum. The prospects of longevity are in proportion to the length of time spent on strict treatment. Sanatorium treatment should last at least a year or eighteen months. The number of years survived is inversely proportional to the number of "positive" sputum examinations when these are made at regular and frequent intervals. In the absence of all expectoration, where patients may be swallowing their sputum, an examination of the fæces should be made.

F. G. CHANDLER, M.D., F.R.C.P.

THE SURGERY OF INTRA-THORACIC TUBERCULOSIS.

DR. J. GRAVESEN'S valuable work on surgical measures for dealing with cases of pulmonary and pleural tuberculosis has now been rendered available in an excellent English version.[1] In his preface the author states that the above book has been written in view of the increasing interest now being given to the surgical treatment of advanced cases of pulmonary tuberculosis: he disclaims credit for any personal contribution to the methods advocated, and acknowledges the work of his predecessor at Vejlefjord Sanatorium, the late Professor Saugmann, who twenty-five years ago took up the crusade against consumption in Denmark, and carried it on with splendid vigour and much success until his death in February, 1923. The methods described are those which are in use at Vejlefjord Sanatorium, and which have been found successful. Collapse therapy in all its forms has now become a well-recognized treatment in selected cases of pulmonary tuberculosis, and Dr. Gravesen, in his book, gives minute and helpful details as to selection of cases and technique. The indications for and against are clearly set forth; the different methods, such as artificial pneumothorax, thoracoplasty, and other ways of collapsing the lung, are explained in detail, and illustrations given of the necessary apparatus, the different steps to be taken in performing the operation, and the complications which may arise during the course of treatment. The second part of the volume is devoted to the treatment of pleurisy associated with pulmonary tuberculosis; reasons are given which make it clear why it is so necessary to recognize early the nature of a primary pleurisy, in order that the healing factors may be assisted, and those which are unfavourable arrested. The guiding principles are set forth clearly and concisely, and should prove helpful in forming a prognosis. A short chapter is devoted and statistics compiled from records of patients treated at Vejlefjord. While this book is primarily intended for those engaged in tuberculosis work, it will also be useful to the general practitioner, for it indicates in concise form the different methods of treatment which can be carried out beneficially in

[1] "Surgical Treatment of Pulmonary and Pleural Tuberculosis." By J. Gravesen, M.D. (Copenhagen), Medical Superintendent, Vejlefjord Sanatorium, Denmark. With a Foreword by S. Vere Pearson, M.D., M.R.C.P., Resident Physician, Mundesley Sanatorium, Norfolk. Pp. xii × 155, with eighty-seven illustrations, three being in colour. London: John Bale, Sons and Danielsson, Ltd., Oxford House, 83-91, Great Titchfield Street, Oxford Street, W. 1. 1925. Price 10s. 6d.

apparently hopeless patients. Dr. Gravesen's work will stimulate interest in the treatment of patients suffering from pulmonary tuberculosis in advanced forms. The illustrations are a valuable feature, and they are all taken from patients treated at Vejlefjord Sanatorium, and are explanatory of the text. Dr. Vere Pearson has provided an appreciative introduction.

THE SURGERY OF PULMONARY TUBERCULOSIS.

"Few physicians and surgeons are yet aware that surgery is now curing or improving approximately two-thirds of those selected cases of far-advanced pulmonary tuberculosis that other methods of treatment have failed to benefit. With these startling words Dr. John Alexander opens the preface to his new work on "The Surgery of Pulmonary Tuberculosis."[1] This work was awarded the quinquennial Samuel D. Gross Prize by the Philadelphia Academy of Surgery, and the author claims that it is the first work in the English language to present the subject of the surgery of pulmonary tuberculosis in its entirety. In America as in England surgeons, for some unaccountable reason, have been slow to deal with this subject, and practically all the pioneer work has been carried out by continental surgeons. Dr. Hugh Cabot claims, and no doubt on good grounds, that Dr. Alexander's comprehensive work will give great impetus to the surgery of tuberculosis of the lungs in America. Dr. E. R. Baldwin, in his "Phthisiotherapist's Introduction," says that "sanatorium treatment with all its accessories, aided by favourable climatic conditions and pecuniary resources, has had at best a bare 10 per cent. recovery rate for the far-advanced pulmonary invalid," and he adds: "It remains to accept the further contributions of phrenicotomy, thoracoplasty, and pneumolysis, which offers vastly more for tuberculosis than had been dreamed of two decades past. The tuberculosis specialist must acquaint himself with the demonstrated value of these aids, and obtain a new and hopeful attitude besides an international outlook." Dr. Alexander provides an admirable study of the evolution of the surgical therapy of pulmonary tuberculosis, and furnishes excellent portraits of pioneers, such as Edouard Bernard, De Cérenville, Ludolph Brauer, Julien Gourdet, Max Wilms, Ernst Ferdinand Sauerbruch, Théodore Tuffier, Hans Christian Jacobaeus, Ernst Stuertz, Edward William Archibald, Peter Nicholay Bull, Christian Saugman, William Albert Gekler, H. Morriston Davies, Léon Bérard, Einar Key and Gumersindo Sayago. Then follow a series of elaborate chapters dealing with the pathological anatomy and physiology of pulmonary compression, artificial pneumothorax, various forms of thoracoplasty, phrenicotomy, extrapleural, intrapleural and open pneumolysis, drainage of cavities, together with descriptions of tuberculous effusion and empyema, post-operative course and management of cases, changes in the configuration of

[1] "The Surgery of Pulmonary Tuberculosis." By John Alexander, B.S., M.A., M.D., Assistant Professor of Surgery in the Medical School, University of Michigan. With Introductions by Hugh Cabot, M.D., C.M.G., LL.D., F.A.C.S., Professor of Surgery and Dean of the Medical School, University of Michigan; and Edward R. Baldwin, M.A., M.D., Director of the Trudeau Foundation and Trudeau School of Tuberculosis, and of the Saranac Laboratory for the Study of Tuberculosis. Pp. 356; with 53 engravings and 12 plates. London: Henry Kimpton, 263, High Holborn, W.C. 1925. Price 21s.

the thorax following thoracoplasty and the results of paravertebral thoracoplasty. The importance and great practical value of this very thorough and detailed exposition can hardly be exaggerated. It is a work which British surgeons should study with care. The volume contains a serviceable bibliography, containing no less than 500 alphabetically-arranged references, and there are numerous diagrams, X-ray photographs, and other illustrations.

PULMONARY DISEASES.

Although tuberculosis of the lungs is one of the commonest of diseases which the general practitioner and the tuberculosis officer have to diagnose and treat, yet it must be remembered that there are many other affections of the chest which may simulate pulmonary tuberculosis or be associated with it, and it is therefore essential that all who are called to deal with tuberculosis of the lungs should have an intimate knowledge of all other diseases involving the respiratory organs. A particularly serviceable treatise is that which has been prepared by Dr. F. T. Lord; it has recently been issued in a thoroughly revised second edition, and we would specially commend it to the attention of all medical advisers responsible for the care of all types of chest cases.[1] The work has been scientifically planned, effectively carried out, and now stands as a thoroughly practical and serviceable treatise which will be of considerable interest to the chest specialist; it provides the general practitioner with all the information and direction he can require respecting all the morbid conditions involving bronchi, lungs, and pleura. A comprehensive chapter of 118 pages is devoted to Pulmonary Tuberculosis, and contains data of much medico-sociological interest. In 1900 the mortality rate from pulmonary tuberculosis per 100,000 population in the ten "original" registration States of America was 171·6; in 1910, 140·7; and in 1920, 96·9. It is estimated that 97,650 deaths from tuberculosis occurred in the United States, a combined wastage of $863,409,615. The section on Family Infection is of special interest, and indicates the high incidence of tuberculous infection among those intimately exposed to the disease in family life. A large proportion of the offspring of tuberculous parents develop manifest and fatal disease where the infection takes place during the first year of life. The mortality of children infected during the first year is probably about 90 per cent.; during the second year about 13 per cent.; and during the third and fourth years about 8 per cent. The author quotes Weinberg's conclusion that the mortality among children is greater the closer the birth is to the death of the mother; "of the children born during the last year of life of a tuberculous mother 75 per cent., and of those born during the last month of life 90 per cent. die before the age of twenty." Dr. Lord's study of pulmonary tuberculosis is a model of concise, explicit, up-to-date, practical exposition and serviceable advice, and for the sake of this section alone all medical advisers interested in tuber-

[1] "Diseases of the Bronchi, Lungs, and Pleura." By Frederick T. Lord, M.D., Visiting Physician, Massachusetts General Hospital. Second edition, thoroughly revised; with the addition of a chapter on pulmonary tuberculosis. Pp. 776; illustrated with 107 engravings and 3 coloured plates. London: Henry Kimpton, 263, High Holborn, W.C. 1925. Price 36s.

culosis of the lungs should secure a copy of this comprehensive and useful treatise. The numerous charts, Roentgen-ray photographs, and other illustrations add much to the value of Dr. Lord's notable and admirably produced volume.

GUIDES TO HELIOTHERAPY AND ACTINOTHERAPY.

HELIOTHERAPY and actinotherapy are now being rapidly developed as agents of exceptional value in the treatment of many general disorders and not a few local lesions. In carefully selected cases of tuberculosis, and when under expert supervision, valuable results are attained. Several excellent manuals on the subject are now available.

Drs. E. H. and W. Kerr Russell have recently issued a particularly interesting and serviceable handbook on ultra-violet radiation and actinotherapy.[1] The work is based on the authors' own experiences carried out in general practice, and they urge that there is no necessity why actinotherapy should be relegated entirely to the specialist. After a brief introduction, historical reference, and exposition regarding radiant energy, succeeding chapters deal in detail with natural and artificial ultra-violet radiations and their chemical and physical properties and biological effects. Excellent descriptions are given, with numerous illustrations, of the various lamps now available. A succinct account of technique is provided, and then follow chapters on morbid conditions in which ultra-violet radiation has been found to be of value. A special chapter is devoted to tuberculosis, and it is shown that while affections of bones, joints, skin, glands, and peritoneum respond to light treatment, great care is necessary when treating pulmonary cases by irradiation. "Cases are better left alone when the condition has become generalized, with rises in temperature, and especially if hæmoptysis is present, particularly if the temperature rises or the pulse quickens to the slightest extent after irradiation." The authors express the opinion that "general irradiation must always be given in conjunction with local irradiations in every case of tuberculosis, whatever the type." Notes are presented of a number of cases treated at the Stannington Children's Sanatorium. The book is admirably got up and suitably illustrated, and there is a useful bibliography. Medical practitioners desiring a concise, practical, and up-to-date account of actinotherapy will find all they require in this well-planned and lucidly written handbook.

Dr. Percy Hall's careful exposition of actinotherapy, which first appeared in 1924, has rapidly run into a second edition, revised and enlarged.[2] The author offers a much-needed warning against the employment of ultra-violet rays by unqualified persons, and rightly urges that this new agent should only be administered under skilled medical

[1] "Ultra-Violet Radiation and Actinotherapy." By Eleanor H. Russell, M.D., B.S., Dunelm; and W. Kerr Russell, M.D., B.S., Dunelm. With Forewords by Sir Oliver Lodge, F.R.S., D.Sc., LL.D.; and Sydney Walton, C.B.E., M.A., B.Litt. Pp. 262; with 77 figures. Edinburgh: E. and S. Livingstone, 16 and 17, Teviot Place. 1925. Price 10s. 6d.

[2] "Ultra-Violet Rays in the Treatment and Cure of Disease." By Percy Hall, M.R.C.S., L.R.C.P. With Introductions by Sir Henry Gauvain, M.A., M.D., M C.; and Leonard E. Hill, M.B., F.R.S. Second edition. Pp. xx + 114; with illustrations. London: William Heinemann (Medical Books), Ltd., 20, Bedford Street, W.C. 2. 1925. Price 7s. 6d.

supervision. Sir Henry Gauvain and Dr. Leonard Hill, both experts in the study of heliotherapy and actinotherapy, commend Dr. Hall's most practical handbook. It provides a succinct account of the physics, pathology, and therapeutics of light treatment, both natural and artificial. Descriptions are provided of the sources of ultra-violet light and the chief forms of lamp now in use. There are also concise chapters dealing with actinotherapy in its application to morbid states and particularly tuberculous lesions. The work is one which can be read with advantage both by medical advisers and members of the laity, and will certainly do much to encourage the establishment of light clinics, particularly in the treatment of children.

Dr. F. H. Humphris has also issued a second edition of his excellent manual, one of the serviceable Oxford Medical Publications, the first edition of which appeared in 1924.[1] The work has been carefully revised, slightly enlarged, and its bibliography extended. It provides the general practitioner with a clear, concise, practical manual in handy form regarding the sources and working of ultra-violet radiation and its application in the treatment of a number of morbid conditions. The author is an enthusiast, and suggests an extension of actinotherapy in "the prophylaxis of rickets, the sterilization of the bladder contents in cystitis, the treatment of sprue, the relief of sterility, and in the attempt to render ready for operation those who suffer from a deficient blood coagulation." There is a section on the application of ultra-violet therapy to tuberculosis. A warning is given that in pulmonary disease radiations "must be administered with extreme caution"; and it is suggested that the type of pulmonary tuberculosis which is most suitable for treatment is where the disease is of the localized, single focus type, and with little or no fever. The work is admirably got up.

THE HÆMOPTYSIS OF PULMONARY TUBERCULOSIS.

Dr. M. Jaquerod of Leysin has written a useful little work on hæmorrhage occurring in pulmonary tuberculosis, and an excellent English translation of "Les hémoptysis tuberculeuses" has been provided by Dr. S. F. Silberbauer.[2] The monograph is of special value in being based on a specialist's experience of more than twenty years and the clinical study of about eight thousand sufferers from pulmonary tuberculosis. Dr. Jaquerod's book deals with hæmoptysis in concise, well-arranged, serviceable chapters, dealing respectively with frequency, pathogenesis, varieties and clinical types, exciting causes and prophylaxis, and treatment. The author shows that hæmoptysis often occurs in those forms of pulmonary tuberculosis which tend to cicatrize naturally and to heal eventually; but a hopeful

[1] "Artificial Sunlight and its Therapeutic Uses." By Francis Howard Humphris, M.D., F.R.C.P.E., M.R.C.S., L.R.C.P., etc. Second edition. Pp. xvi+203; with 15 figures. London: Humphrey Milford, Oxford University Press, Amen House, Warwick Square, E. C. 4. 1925. Price 8s. 6d.

[2] "Hæmoptysis in Pulmonary Tuberculosis," by Dr. Marc Jaquerod, Swiss Federal Diploma, Physician-in-Charge Grand Hotel Sanatorium, Leysin; Medical Director of the Société Climatérique of Leysin, Switzerland. Translated by S. F. Silberbauer, M.D., F.R.C.P. (Edin.), Hon. Physician Somerset Hospital, Cape Town; Late Lecturer on Clinical Medicine University of Cape Town. Pp. vii+106. London: Baillière, Tindall and Cox. 1925. Price 5s. net.

view can only be justified so long as judicious treatment and strict control is maintained. Moreover, "the better the results obtained from any method of treatment, the less frequent will be the hæmoptysis." Dr. Jaquerod holds that "on principle, when an hæmoptysis occurs, the treatment should at first be restricted to the most simple physical and dietetic measures (rest, milk diet, ice, etc.), and the use of all medicines held over for at least twenty-four hours." His concluding advice merits the thoughtful consideration of all medical practitioners having to deal with consumptives.

VITAL PULMONARY CAPACITY.

THE vital capacity of the lungs in health and disease has for long been a favourite subject for research and discussion by physiologists and clinicians. Dr. Myers has rendered a real service by bringing together all essential facts relating to the vital-capacity test, and providing data which enable it to be employed without any intricate mathematical calculations.[1] The significance and application of the vital capacity is discussed, and various references are made to its value in pulmonary tuberculosis. It is shown that vital-capacity readings deserve a definite place as a supplementary method in diagnosis and prognosis in these cases. Reference is made to a number of interesting clinical examples. Dr. Myers's monograph deserves the serious study of tuberculosis officers and other medical advisers dealing with patients threatened with or actually suffering from tuberculosis of the lungs.

INDUSTRIAL SETTLEMENTS FOR CONSUMPTIVES.

In this journal we have repeatedly dealt with the question of Industrial Colonies for Consumptives, particularly as exemplified by the fine organization which, under the wise and enthusiastic directorship of Dr. Varrier-Jones, has made the Village Settlement at Papworth known among tuberculosis workers throughout the world. It is well that three of the chief papers relating to this successful adventure should have been collected and issued in convenient form.[2] Sir James Kingston Fowler's sympathetic introduction merits serious consideration. He shows rightly that no little of the disappointment which is now reflected in the popular cry that sanatoria have been failures has been due to lack of proper training of those who select cases and those who

[1] "Vital Capacity of the Lungs: A Handbook for Clinicians and Others Interested in the Examination of the Heart and Lungs both in Health and Disease," by J. A. Myers, M.S., Ph.D., M.D., Assistant Professor of Preventive Medicine and Public Health in the Medical and Graduate Schools of the University of Minnesota. With an Introduction by S. Marx White, B.S., M.D., F.R.C.P., Professor of Medicine, and Chief of the Department of Medicine, University of Minnesota. Pp. 140; with 32 diagrams, 23 tables and bibliography. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1925. Price 16s. 6d.

[2] "Papworth: Administrative and Economic Problems in Tuberculosis." By the late Sir German Sims Woodhead, K.B.E., V.D., M.A., M.D., LL.D.; the late Right Hon. Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S.; and P. C. Varrier-Jones, M.A., M.R.C.S., L.R.C.P., with an Introductory Chapter by Sir James Kingston Fowler, K.C.V.O., C.M.G., M.A., M.D. Pp. v+63. Cambridge: The University Press. 1925. Price: Paper boards, 2s. 6d. net; cloth, 3s. 6d. net.

have been responsible for the organization and administration of sanatoria. It is shown that "amongst the industrial classes there are no early cases of pulmonary tuberculosis, apart from such as begin with tuberculous pleurisy or hæmoptysis, or are discovered by the examination of contacts. The working man has no time to be an early case of pulmonary tuberculosis. When the onset of the disease is insidious, the early symptoms are capable of so many interpretations that, as a rule, its presence is not recognized until a considerable area of the lung first affected is already involved." We quite agree with Sir James Kingston Fowler that the ideal result of sanatorium treatment is "to fit the patient for the occupation in which he was engaged before the onset of his illness." The chief lessons to be learned from the success of the Papworth experiment are summarized as follows: "(1) There must be no question that the patients really are suffering from tuberculosis. (2) If the disease cannot be arrested, they must still be capable of work which must be suited to their diminished strength. (3) They cannot be trained to a new occupation and fitted to battle alone with the industrial conditions which obtain in this imperfect world. (4) But they can be trained to do 'repetition' work, and earn wages graded to their skill. (5) The wages paid to the skilled men must be at the trade-union rate for the number of hours which their physical condition allows them to work without injury to their health. (6) All the heads of the departments must be men who have themselves suffered from the disease, although they may have recovered from it, either completely or partially. Men who have not had this experience cannot enter into the feelings of those who are working under their direction. (7) There must be a prospect of promotion in the mind of every settler—*e.g.*, from sanatorium to hut, to hostel, to a cottage; and in the industries, from part time at the lower rate of wages to full time at the higher trades-union rate, according to skill and application, and, finally, to the position of head of a department. (8) The stores, which contain all the necessaries of village life, must be run on the same lines as the industries. (9) The products of the labour of the settlers must be sold in the open market under competitive contracts or by travellers employed after the manner followed by wholesale firms. (10) The industries best suited for a tuberculosis settlement are such as can be carried on in well-ventilated hygienic workshops, where a considerable number of men can be employed. (11) Our old but elusive friend, the 'light occupation in the open air,' although not to be excluded, is, speaking generally, less suitable than those carried on indoors under conditions in which the worker is sheltered from inclement weather. (12) All heavy work on the land is unsuitable, and all the heavy work of the industries must be done by machinery. (13) The computation of costs of the various industries, of profit and loss, of prices at which tenders for contracts are to be made, are matters which require as close supervision as they receive in any well-ordered manufacturing concern. All the secretarial work must be done by the settlers. (14) The medical treatment and clinical supervision of the settlers must be as efficient as obtains in the best sanatoria." It should be noted that the printing of the volume has been done entirely at Papworth by the Papworth Press, an arrangement doubtless unique in the annals of printing.

HEALTH AND ENVIRONMENT.

Drs. Leonard Hill and Argyll Campbell have just published a collection of studies on health and environment based, for the most part, on "The Science of Ventilation and Open-Air Treatment," Parts I. and II., and "The Kata-Thermometer in Studies of Body Heat and Efficiency," being Nos. 32, 52, and 73 of the Medical Research Council's Special Reports.[1] The authors have sought to provide the educated and patriotic public, as well as students and others interested in the pure medical and ventilative sciences, with a knowledge of the main conditions which at present seem to oppose the improvement of national health and efficiency. The volume opens with a study of the impurities and unfavourable conditions of the atmosphere, and passes to a consideration of the rôle of the kata-thermometer in the study of various systems of heating and ventilation. Then follow evidence regarding the effects of surrounding conditions upon health, and chapters Concerning Clothes, Cold, Light, and Food. In Part II. is a detailed description of the kata-thermometer, a section on the skin, particularly in regard to factors controlling body heat. The volume closes with a Short Exposition of Metabolism. Considerable attention is directed to the prevalence of tuberculosis and occupational mortality rates from phthisis as compared with that from pneumonia. There is a section on Sanatoria and Open-Air Treatment. The opinion is expressed that "the south and south-east seaside coasts in England are the ideal situations for open-air sanatoria," and, it is added, "in winter the absence of sunlight can be made good by the use of arc light baths." There is a section on Alpine Sanatoria and Heliotherapy, and pictures are given of some of Rollier's cases successfully treated at Leysin. We close this all too brief notice by quoting the authors' views on Discipline in Sanatoria: "Of very great importance is the wise discipline of the daily life of the patients at a sanatorium. The mental and emotional nature of the patient must be regarded—that is, his favourite environment, resources in amusing himself, love of company, etc., must be considered. Too often are the patients told to walk so far and rest so much, but left to amuse themselves or mope through the day. There should be one to guide them, such as a wise schoolmaster, trained in the control of physical exercise and amusements, capable of instilling joy of life; one who can map out the patients' day, the walks, gardening, games, etc., control card-playing and gambling, and prevent drifting to public-houses; one who will introduce visitors from among the more convalescent patients to such of the bed cases who are not being treated with absolute rest, regulating their visits, and breaking the hours of loneliness and depression, while controlling the hours spent in reading, and introducing other methods of passing the time, such as embroidery, making of scrap-books, and various forms of handwork."

[1] "Health and Environment." By Leonard Hill, M.B., F.R.S., Director Department of Applied Physiology, National Institute of Medical Research, and Argyll Campbell, M.D., D.Sc., Member of Research Staff, National Institute for Medical Research. Pp. xi+208, with seven plates and monographic chart. London: Edward Arnold and Co., 41 and 43, Maddox Street, W. 1. 1925. Price 12s. 6d. net.

RESPIRATORY FUNCTION IN DISEASE.

PROFESSOR J. C. MEAKINS and Dr. H. W. Davies have carried out an erudite study of disturbed respiratory function as viewed from the standpoint of Clinical Medicine and have produced a work of outstanding importance, one which demands the serious consideration of all scientific physicians. We commend it specially to the notice of all tuberculosis officers and chest specialists.[1] It is dedicated to Dr. J. C. Haldane. The work is divided into two parts: The Normal Respiratory Function and Respiratory Function under Abnormal Conditions. In the latter section there is a lengthy chapter on Hæmo-respiratory Function in Pulmonary Tuberculosis. In this a detailed account is given of observations made by Dr. Lucien Dautrebande at the Hôpital Anglo-Belge in Brussels on patients in the wards of Professor Nolf. Investigation of cases with early lesions localized in one apex fail to show any abnormality as regards arterial blood gases, alveolar air, "dead space," or any clinical symptoms suggesting disturbances of respiratory function, apart from such as might occur in any condition of infection and fever. Data are presented regarding the influence of Lung Compression by Artificial Pneumothorax upon Respiratory Function in cases of pulmonary tuberculosis. Clinicians have often been puzzled by the disappearance of dyspnœa in tuberculous patients following total collapse of an affected lung. The explanation would seem to be that in these cases the pulmonary circulation practically ceases in the affected part, the arterial oxygen saturation being quickly restored and only the healthy lung continues to function. "Moreover, it is a well-established fact that after collapse of one lung the total amount of air breathed (at rest) remains practically the same as before. Hence the ventilation of the uncollapsed lung must be doubled. This would ensure a more uniform distribution of air throughout this lung and would tend to lessen the functional importance of any slight or moderate lesions which might be present in it." The volume will be of much service to research workers, not only on account of the records presented, but also for the excellent descriptions of methods and the elaborate alphabetically arranged bibliography.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

Tuberculosis officers and general practitioners will do well to study the strange morbid state to which the designation "Allergy" has been given. "Individuals can apparently become hypersensitive directly or indirectly to the effect of almost any alien agent, including foods, drugs, pollen, hair, feathers, smoke, vapours, volatile oils, sera, insects, etc., and

[1] "Respiratory Function in Disease." By Jonathan C. Meakins M.D., C.M., F.R.C.P.E., F.R.S.E., Professor of Medicine, M'Gill University, and Physician-in-Chief to the Royal Victoria Hospital, Montreal; formerly Christison Professor of Therapeutics in the University of Edinburgh, and H. Whitridge Davies, M.B., B.S., Lecturer in Methods of Clinical Instruction in the Department of Therapeutics, University of Edinburgh. Pp. xi + 478, with 63 illustrations. Edinburgh: Oliver and Boyd. 1925. Price 28s.

even . . . to the specific effect of a physical agent such as light, heat, cold, mechanical irritation, freezing, or burns, and in the case of heat, sensitiveness to the effect of mental or physical exertion. The symptoms produced depend largely upon the degree of sensitiveness of the patient, the mode of contact with the offending agent, and the dose encountered. Dependent upon this, symptoms vary in intensity, chronicity, and in location. Frequently symptoms are chiefly local, affecting tissues over very limited areas. Frequently they are very widespread, affecting almost every active tissue in the body. Because of these facts, the apparent manifestations vary greatly and may simulate other diseases in almost any locality and in almost any degree of severity. For this reason, the phenomenon has to be taken into consideration by specialists in almost every line." These words appear in the introduction to Dr. W. W. Duke's monograph on Allergy.[1] It is now agreed that the term "anaphylaxis" shall be restricted to proved antigen antibody reactions, while the term "allergy" is to be employed as including anaphylaxis as well as reactions of altered reactivity in which an antigen antibody reaction has not been demonstrated. Perhaps underlying processes may bind all these phenomena of specific hypersensitiveness together. Dr. Duke in his comprehensive work provides discussions regarding experimental anaphylaxis; serum sickness; bacterial allergy, and illnesses in human beings traceable to specific hypersensitiveness to material agents; and also reactions caused specifically by action of physical agents, such as light, heat, cold, mechanical irritation, freezing and burns, and, in the case of heat sensitiveness, indirectly by the effect of mental or physical effort. The whole subject is still in great complexity and much obscurity, but Dr. Duke has provided a work full of information and rich in suggestions which should stimulate all clinicians to a more intensive study of the remarkable phenomena which for purposes of convenience we can for the present classify under the general designation of Specific Hypersensitiveness. The volume is provided with an excellent bibliography.

Professor Evarts A. Graham has published his prize essay on Thoracic Empyema, which was awarded the Samuel D. Gross prize of the Philadelphia Academy of Surgery in 1920.[2] The work is based on experience gained in an investigation of the epidemic of hæmolytic streptococcus infections of the respiratory tract associated with empyema which ravaged military camps in America during the winter of 1917–18. The work opens with a consideration of pathological data, and then follow sections relating to clinical considerations and operative measures. The essential features of the principles of treatment advised are: (1) careful avoidance of open pneumothorax in the acute, pneumonic stage; (2) the prevention of a chronic empyema by the rapid sterilization and obliteration of the infected cavity; and (3) careful attention to the nutrition of the patient. The work merits the study of both physicians

[1] "Allergy: Asthma, Hay Fever, Urticaria, and Allied Manifestations of Reaction." By William W. Duke, Ph.B., M.D., of Kansas City, Missouri, U.S.A. Pp. 339, with 75 illustrations. London: Henry Kimpton, 263, High Holborn, W.C. 1925. Price 25s.

[2] "Some Fundamental Considerations in the Treatment of Empyema Thoracis." By Evarts A. Graham, A.B., M.D., Member of Empyema Commission, U.S. Army; Professor of Surgery, Washington University School of Medicine, etc. Pp. 110, with 13 figs. and bibliography. London: Henry Kimpton, 263, High Holborn, W.C., 1925. Price 10s. 6d.

and surgeons called to deal with cases of empyema. There is a useful bibliography.

The housing problem is still unsolved. Undoubtedly the lack of adequate hygienic houses for the people is one of the greatest factors in the initiation and perpetuation of tuberculosis and other morbid states. Mr. Reiss has rendered a notable service in preparing a handbook which furnishes in lucid language reliable and helpful information regarding all aspects of the housing question.[1] In a series of sixteen chapters the subject is systematically surveyed. There are chapters on the provision of houses in pre-war days, Housing Acts and housing administration, the planning of houses and the provision of labour and materials, the cost of houses, and the restriction and assessment of rent. There are also chapters on insanitary and unfit houses and tenement dwellings, the clearance and improvement of slum areas and town planning, and the formation of garden cities. Appendices furnish the full texts of the Chamberlain Act, 1923 (Part I.), and the Wheatley Act, 1924, and there are tables indicating the prices of certain building materials and other valuable data. A serviceable bibliography is provided. The opinion expressed by Mr. Charles P. Childs in 1923, when President of the British Medical Association, is quoted. "The breeding-ground of this disease [tuberculosis], this environment most encouraging to its activities, is the sunless, airless, overcrowded, and insanitary areas of our great cities, where houses are built forty or more to the acre, and stand back to back and side by side like any jigsaw puzzle, so that fresh air and sunlight, the proved destructive agents of the tubercle bacillus, can never enter. Is it a sound economic position to equip and maintain, at the cost of millions of the taxpayers' money, sanatoria for the so-called tuberculous, while we guard intact the very preserve of this disease by the exclusion of fresh air and sunlight, which cost nothing, and maintain in our midst a soil which can breed more tuberculosis in a week than all sanatoria can cure in a year?" We commend Mr. Reiss's statesmanlike handbook to the consideration of all eager for the prevention and arrest of tuberculosis and other house-bred ills threatening human health and happiness.

For the general wellbeing of all classes of cases provision should be made for the adequate heating of houses. Mr. Gunn has written a concise practical handbook, which should be studied by all home-builders, especially those who are making a dwelling for patients and delicate subjects.[2] He describes in non-technical words and illustrates the various systems and forms of apparatus, explaining their relative merits and suitabilities as viewed from the detached and unbiassed standpoint of an architect. There are five chapters, dealing respectively with heat distribution, fuels or generating agents, distributing agencies, heating apparatus, central heating, and hot-water supply. The plans and illustrations add much to the interest and value of a thoroughly practical and serviceable manual.

[1] "The New Housing Handbook," by Richard Reiss, Chairman of Executive of Garden Cities and Town Planning Association. Pp. viii+195. With figures. London: P. S. King and Sons, Ltd., Orchard House, 2 and 4, Great Smith Street, Westminster, S.W. 1. 1924. Price 4s. 6d.

[2] "How to Heat Your House." By Edwin Gunn, A.R.I.B.A. Pp. 96, with plans and figures. London: "Country Life," Ltd., 20, Tavistock Street, Covent Garden, W.C. 2. 1925. Price 2s. 6d.

Among recent special works which every student and practitioner of medicine should make a point of reading is the monumental and masterly study of Mr. Hastings Gilford on "Tumours and Cancers."[1] The author, who possesses rare powers of scientific insight and exposition, and has not only read widely, but enjoyed exceptional experience as a practical surgeon, has devoted the best part of his professional life to the study and exposition of problems relating to abnormal growth. In this his latest work he unfolds theoretical considerations regarding cancers and other neoplasms, which are both original and suggestive, and likely to have important practical bearings. The volume is divided into eight books: Introductory; Growth and Overgrowth; Development—Normal and Premature; the Origin of Cancer; Nature and Natural History of Cancer; the Cause of Cancer; Cure and Prevention of Cancer; Retrospect and Prospect—Conclusions. Mr. Gilford's treatise is of special importance in that it views cancer as essentially a biological problem which must be specially studied in the light of present-day knowledge regarding genetics and ecology. The author reminds us that the present work should be considered as a continuation of his former book, "The Disorders of Post-Natal Growth and Development." As Professor Sir Frederick Keeble says in his sympathetic introduction: "Suggestions large and bold greet the reader on wellnigh every page." The work is truly a great production. To provide any adequate review would require many pages of this journal. This brief notice will, it is hoped, direct the attention of many to this notable volume.

Dr. W. V. Sinclair has prepared a useful brochure on atmospheric vitiation in the dwelling-house and the signs and symptoms of poisoning from the deleterious action of combustion gas products.[2] Tuberculosis officers may with advantage turn their attention to a consideration of problems connected with imperfect combustion and impure atmospheric conditions.

The "Abrams Treatment" has been extensively discussed and much variation in view expressed in regard to its value as a justifiable therapeutic measure. Dr. G. Laughton Scott has sought to provide a serviceable guide based upon personal investigations,[3] concentrating on (1) "whether the instrument of treatment, the oscilloclast, produces clinical results which cannot be denied, and (2) whether that treatment gives rise to demonstrable electrical phenomena which might explain any positive results." The author believes in applying judgment in accordance with "results," but recognizes the difficulty of excluding the effects wrought by "suggestion." Dr. Scott's work is of interest to readers of this journal in that he devotes a chapter to "Tuberculosis treated by the Method," in which records are given of several cases which seem to have been advantaged by the Abrams system. An

[1] "Tumours and Cancers: A Biological Study." By Hastings Gilford, F.R.C.S. With an Introduction by Sir Frederick Keeble, C.B.E., Sc.D., F.R.S. Pp. xii+703. London: Selwyn and Blount, Ltd., 21, York Buildings, Adelphi, W.C. 2. 1925. Price 42s.

[2] "Combustion and Atmosphere and their Relation to Disease," by W. Vernor Sinclair, L.R.C.P., L.R.C.S.Ed., pp. 47. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, Oxford Street, W. 1. 1925. Price 2s.

[3] "The Abrams Treatment in Practice," by G. Laughton Scott, M.R.C.S., L.R.C.P., B.A. (Oxon.) Pp. 155. London: Geoffrey Bles, 22, Suffolk Street, Pall Mall, S.W. 1. 1925. Price 5s.

appendix contains a report on the oscilloclast by two electrical engineers.

Dr. E. W. Hayes of Monrovia, California, has reprinted his articles from the *Journal of the Outdoor Life*, and issued them in convenient and permanent book form.[1] The booklet contains the views and advice of one who, as both a cured case and a physician, is eager to help consumptive patients to put up a winning fight, and which, as he explains, depends on a loyal and wise co-operation between medical adviser and patient. Dr. Hayes's sensible and serviceable little manual is just the sort to place in the hands of an intelligent tuberculous subject anxious to have reliable information and authoritative guidance.

A second and revised edition has been issued of the most helpful little manual on Writing Theses, which was originally prepared by Sir Humphrey Rolleston for *St. George's Hospital Gazette* in 1911.[2] The notes are intended primarily for those preparing theses for the medical degrees of the University of Cambridge, but will be of interest and service to all who are called to construct dissertations or write medical articles. This unpretentious little volume is full of sound wisdom, practical information, and helpful suggestions.

Dr. G. S. Haynes of Cambridge has written a succinct, suggestive, and thoroughly helpful guide to effective medical case-taking.[3] It was prepared for the use of medical students entering on their clinical duties, but it will be of service to hospital residents, young practitioners, and all who desire directions as to the best ways in which patients may be examined. The book is interleaved with writing paper, so that additional notes may be made as experience suggests. The directions for the examination of chest cases should be of value to young tuberculosis officers and students working in hospitals and sanatoria for consumptive cases.

The Director of the Manitoba Sanatorium has compiled a useful booklet of instructions for medical students taking up clinical work among tuberculosis patients.[4]

Mr. A. Miles of Edinburgh has issued a most helpful guide for those desiring to enter on a medical training. He provides a complete bird's-eye view of the way which has to be travelled, and indicates how the various subjects in the curriculum should be considered and dealt with as a part of a co-ordinated whole. Every student in a British medical school should secure and peruse this serviceable brochure.[5]

Dr. A. Flexner has prepared a timely and comparative study of

[1] "Tuberculosis as it Comes and Goes," by E. W. Hayes, M.D. Pp. 64. Monrovia, California, U.S.A. 1924.

[2] "On Writing Theses for M.B. and M.D. Degrees," by Sir Humphrey Rolleston, Bart., K.C.B., D.Sc., D.C.L., LL.D., M.A., M.D., Regius Professor of Physic in the University of Cambridge; President of the Royal College of Physicians of London. Pp. 28. London: John Bale, Sons, and Danielsson, Ltd., 83-91, Great Titchfield Street, W. 1. 1925. Price 1s.

[3] "Notes on Medical Case-Taking and the Examination of Patients," by G. S. Haynes, M.D., M.R.C.P., Assistant Physician Addenbrooke's Hospital, Cambridge. Pp. viii+57. Cambridge: W. Heffer and Sons, Ltd. 1925. Price 3s.

[4] "Medical Histories and History Writing, with Special Reference to Tuberculosis: A Few Notes and an Outline," pp. 12. Issued for medical students at the Manitoba Sanatorium, Ninette, Manitoba, Canada.

[5] "A Guide to the Study of Medicine," by Alexander Miles, M.D., F.R.C.S., LLD., Consulting Surgeon, Royal Infirmary, Edinburgh. Pp. vii+92. Edinburgh: Oliver and Boyd, Tweedale Court; London: 33, Paternoster Row, E.C. 4. 1925. Price 3s.

medical education in this and other European countries and America against the background afforded by the general educational and social systems of the respective countries.[1] We gather that in most lands there is urgent need for improved instruction in regard to tuberculosis.

Tuberculosis officers and all responsible for the regulation of the exercise of patients undergoing open-air treatment should make a point of examining the feet. In a large number of cases serious defects are present; some painful disorders can be relieved by a resort to the art of the chiropodist. Mr. E. G. V. Runting, a Founder and the first President of the Incorporated Society of Chiropodists, has recently published a manual on practical chiropody, which certainly merits the serious consideration of general practitioners, nurses, and all who have to advise as regards exercises, sports, expeditions, and every form of activity requiring a proper condition of the feet.[2] The work provides a serviceable exposition of the inflammatory affections involving the tissues of the foot and affords detailed directions regarding the treatment and general management of corns, disorders of the nails, and other derangements impairing the effectiveness of the feet. There are serviceable sections on types of boots, props and pads, hyperidrosis, bromidrosis, and anidrosis, and the various instruments and therapeutic preparations employed in chiropody. The volume has been compiled from lectures delivered at the School of the Incorporated Society of Chiropodists and from the author's contributions to the theoretical course for practising chiropodists taking the Society's examinations.

The "Medical Annual" is an indispensable year-book for every conscientious medical practitioner desirous of keeping abreast with the rapidly progressing science and art of medicine, for it provides conveniently arranged, succinct epitomes prepared by recognized authorities regarding new work and practical measures. The publishers have rendered possessors of the "Medical Annual" a real service by the issue of a most effective index to the contents of the last ten volumes.[3] Immense labour has been entailed in the production of the two indexes forming this comprehensive work of reference, the first dealing with subjects and the second giving an alphabetical list of authors quoted.

We have received from Professor M. J. Rosenau of the Department of Preventive Medicine and Hygiene, Medical School, Harvard University, Boston, Massachusetts, a large and handsome volume containing the transactions of the International Conference on Tropical Hygiene held at Kingston, Jamaica, in the summer of 1924. The book is a monumental one, handsomely produced, and admirably presents the objects and records the work of this unique representative gathering of experts from all parts of the world. The volume is a compendium of authoritative information of the present status of knowledge regarding medicine, surgery, hygiene, sanitation, and the like, having bearing on health and general well-being under tropical conditions. There are contributions from Noguchi, Banting, Castellani, Park, Deeks, Thompson, Sir Arthur Newsholme, Sir James Kingston Fowler, Sir Arbuthnot

[1] "Medical Education: A Comparative Study," by Abraham Flexner. Pp. xii+334. New York: The Macmillan Company. 1925. Price 10s. 6d.

[2] "Practical Chiropody," by E. G. V. Runting, F.I.S.Ch., pp. ix+164, with illustrations. London: The Scientific Press, Ltd., 28 and 29, Southampton Street, Strand, W.C. 2. 1925. Price 5s.

[4] "The *Medical Annual* General Index for the Ten Years 1915 to 1924." Pp. xvi+339. Bristol: John Wright and Sons, Ltd. 1925. Price 12s. 6d.

Lane, Sir Thomas Oliver, Sir Leonard Rogers, and many others whose work on the prevention and arrest of disease is known and valued everywhere. The conference was held under the auspices of the United Fruit Company, a body which has accomplished invaluable pioneer service in transforming great tracts of jungle into fertile and wholesome garden lands, and devoted special attention to the health and welfare of their employees. The volume contains seventy-one communications, and includes an excellent study of "Tuberculosis in the Tropics," by Sir James Kingston Fowler.[1]

The Reports of the Advisory Committee on Atmospheric Pollution contain valuable data which should be studied by all tuberculosis officers.[2] We have received copies of the tenth and eleventh reports, recording observations for the years ending March 31, 1924 and 1925.

The well-known firm of Parke, Davis and Co. have issued to members of the medical profession a serviceable manual on biological therapy containing useful notes on the treatment of tuberculosis.[3]

[1] "Proceedings of the International Conference on Health Problems in Tropical America." A record of a gathering held at Kingston, Jamaica, British West Indies, July 22 to August 1, 1924, by invitation of the Medical Department of the United Fruit Company. Pp. xxi+1010, with numerous illustrations and several plates in colour. Published by the United Fruit Company, Boston, Massachusetts, U.S.A. 1925.

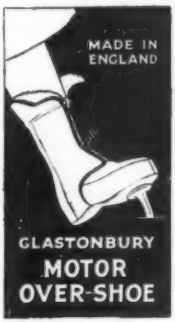
[2] Meteorological Office, Air Ministry: Advisory Committee on Atmospheric Pollution. London: H.M. Stationery Office, Adastral House, Kingsway, W.C. 2. Price, Tenth Report, 4s. net; Eleventh Report, 5s. 6d. net.

[3] "Biological Therapy, including Vaccine Therapy, Serum Therapy, Phylacogen Therapy, Gland Therapy, and Diagnostic Proteins," pp. 198, can be obtained by medical practitioners on application to Parke, Davis and Co., 50, Beak Street, W. 1.

PREPARATIONS AND APPLIANCES.

HYGIENIC APPLIANCES AND THERAPEUTIC PREPARATIONS.

MANY patients undergoing sanatorium treatment, and, indeed, not a few ordinary individuals living under open-air conditions, suffer greatly from cold feet, and oftentimes during winter months develop troublesome chilblains. For all such we would advise a resort to the new, attractive, and wonderfully comfortable and protective GLASTONBURY OVERSHOES.[1] These are the outcome of prolonged investigation and thorough testing, and certainly seem to provide an ideal footwear, not only for patients but for motorists, travellers, and others liable to cold feet or called to endure exposure in wintry weather. The overshoes are scientifically designed, strongly constructed, and the soft, fleecy wool lining is that which is naturally associated with the sheep-skin. The sole and golosh are made of pure waterproof plantation crepe-rubber, and have a stainless leather tongue. These overshoes, which are available in all sizes for men and women, readily slip on over the ordinary shoes or boots, and fasten by means of the Kynoch Lightning Untarnishable Fastener. They can be obtained in black or fawn box cloth or tan suede.



C.S & M.L^TD C.

Doctors will find the new ASTRO ADJUSTABLE BRACKET—an illustration of which is here given—of much service in laboratories, consulting-rooms, and for ordinary use in reading and writing.[2] It will also be appreciated by many patients in hospitals and sanatoria. This practical appliance with its movable reflector provides a means for the elimination of the troublesome shadow which is inseparable from some filament lamps, and all glare is avoided. Being adjustable the light can be thrown in any direction. This novelty only requires to be used to be appreciated.

THE ASTRO ADJUSTABLE BRACKET.

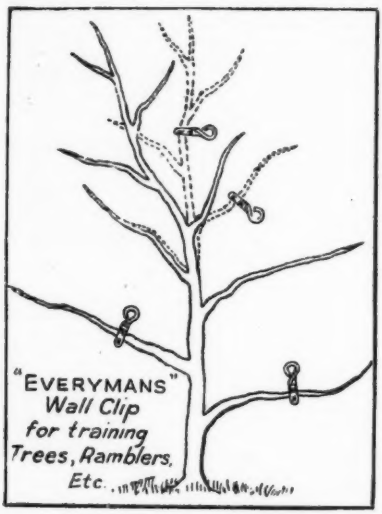
Under the designation of THE CROCRAC there has recently been introduced a novel, reliable, inexpensive drying rack which promises to be a time, trouble, and material saver, not

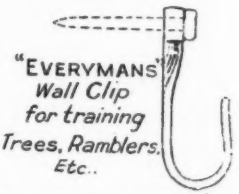
[1] Full particulars regarding the Glastonbury Overshoes can be obtained on application to the makers, Clark, Son and Morland, Ltd., Glastonbury. The prices range from 45s. to 52s. 6d.

[2] The Astro Adjustable Bracket is made by B.I. Syndicate, Ltd., 45-48, Carlton House, Lower Regent Street, S W. 1, price 8s. 6d., post free.

only in the private dwelling-house, but in schools, hospitals, sanatoria, and other institutions. The "Crocrac" is a galvanized steel rack for the drying of plates and saucers. It is easily suspended anywhere, is efficient, compact, hygienic, durable, and at small cost meets a universal need.[1]

Horticulture and scientifically conducted gardening offers a pleasing and fairly profitable occupation for not a few arrested consumptive cases and others predisposed to tuberculosis. It is very essential, however, in all work carried on under open-air conditions, that as far as possible use should be made of labour-saving contrivances. The House and Garden Sundries Company, Ltd., have introduced a number of ingenious inventions which should be known to all classes of gardeners. We would direct special attention to their cleverly designed, simple but very effective wall-clips, the nature and employment of which is indicated in the accompanying figures.[2] The clip is the invention of Mr. J. J. Bailey, F.R.H.S., L.D.S., Chilworth, Clarence Road, Harpenden, and is a most economical, effective, time and labour saving device for the training of fruit trees, ramblers and the like to walls or along fences. These clips





will be found of much service in connection with sanatoria, tuberculosis settlements, open-air schools and the like, as well as for patients and arrested cases living in their own homes and entering into the delights of garden work.

The "Vic" Tonic FLESH CLOTH is a personal hygienic agent which, replacing the ordinary sponge, provides a material which is of crepy softness, and can be used not only for the cleansing of the face but for all skin surfaces. It exercises a loofah-like tonic action, and with soap does not readily become slimy. This sanitary cloth will be invaluable in nurseries, open-air schools, hospitals, sanatoria, and other institutions, as well as for the use of normal children and healthy grown-ups.[3]

[1] The "Crocrac" is made by Louis H. Reid and Co., 32, Victoria Street, S.W. 1. The price is 4s. 6d.

[2] The Everyman's Wall Clips and other novelties for the gardener are provided by the House and Garden Sundries Company, Ltd., Chichester House, Chancery Lane, W.C. 2.

[3] The "Vic" Tonic Flesh Cloth is manufactured by the manufacturers of the well-known Norvic and Vic Crepe Bandages, Grout and Co., Ltd., Great Yarmouth, Norfolk. Prices: face size, 1s.; bath size, 1s. 6d.

BRUSHES are among the most important agents which ingenious man has devised for the maintenance of personal hygiene and the sanitary welfare of his home and the places he frequents. Brushes are of all sorts and conditions, made of different materials, varying in shape and size, and differing much in quality, durability, price, and effectiveness. It is very desirable that all brushes, whether used for the hair, body, clothes, or other personal needs, and all employed for domestic purposes, should be of such material and so constructed as to permit of thorough cleansing and proper sterilization when required. Our attention has recently been directed to a new type of brush which is being supplied by the Kleen-E-Ze Brush Company.[1] These have many advantages over the old-fashioned brushes generally met with. Among the chief benefits attention should be directed to the twisted-in wire attachment of hairs or bristles, so preventing any likelihood of their becoming detached; the absence of projecting wooden back, liable to knock against, and so damage furniture and skirting boards; and ease in thorough cleansing. The brushes are available in all shapes, sizes, and forms suited to meet every requirement, and each brush is supplied with a guarantee that if in any way faulty it will be immediately replaced.

THE RELIANCE TRANSPARENT FOUNTAIN SYRINGE.

The Reliance Transparent Fountain Syringe will be found invaluable for use in hospitals and sanatoria, as well as for many patients undergoing domiciliary treatment.[2] This new, soft, transparent, heat-cured, seamless-moulded receptacle is not only of attractive appearance, durable and inexpensive, but allows of the liquid which fills it being seen, and it can be sterilized by boiling. Moreover, it is easily packed, remains in good condition even in hot countries, and is always ready for use. This ideal appliance should replace all old-fashioned douche-cans and every ancient enema.

Tuberculous subjects and other patients undergoing treatment by graduated exercises, as well as healthy pedestrians and sound sportsmen,

[1] Full particulars of the various forms of Kleen-E-Ze Brushes, with price list and demonstration if desired, may be obtained on application to Mr. F. H. Fleig, British Agent of the Kleen-E-Ze Brush Company, 38, Shaftesbury Road, Luton, Beds; and Bijou Cottage, Albert Road, Epsom, Surrey.

[2] Particulars regarding the Reliance Fountain Syringe (price 7s. 6d. complete) and other rubber ware can be obtained on application to the Reliance Rubber Company, Ltd., 212-213, Upper Thames Street, E.C. 4.

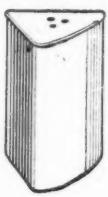
should welcome the new BORACIC ACID FOOT SOCKS recently introduced by Messrs. Boots.[1] These socks provide a firm foot-tread with a damp-proof surface next to the boot and an absorbent surface impregnated with boracic acid towards the foot. They are available at a low price, thus allowing for renewal as may be desirable. For tender, sweating, easily-tired feet, liable to chafe or develop chilblains, these antiseptic, deodorizing, and comfort-creating socks will prove a real boon.

Under the designation of SOMNAR PADS there has recently been introduced a novelty which is said to add much to the comfort of a patient when in bed. The invention consists of four specially designed and carefully shaped insulators composed of rubber and a special composition material. These are placed under the four castors of the bed and rest on the floor. Many cases have testified to the advantages of these simple appliances in affording the would-be sleeper a sense of buoyancy and reducing ground tremors and troublesome vibrations. They have proved of service in cases of insomnia and general restlessness, and certainly deserve thorough testing.[2]

In the decoration of patients' rooms, open-air schools, as well as for service in the ordinary dwelling-house, the "EROS" COMBINED PLATE-HOLDER AND PICTURE HOOK is a novelty which those responsible for hygienic and artistic management will welcome.[3] It consists of a metal holder made of cast brass, which has above outspread arms for the support of any shape of plate, while below is the customary hook for the cord suspending the picture. The joint holder and hook has its attachment to the picture-rail when in use.

THE BATHROOM CABINET FIRST-AID CHART is an illustrated guide as to "what to do first" in case of accident or sudden illness.[4] The pictures and text, printed in red and black, are effective, judicious, and likely to be serviceable. This chart may well be used in sanatoria, open-air schools, and other institutions, as well as in private homes.

The UNO HAMPERS provide a new, artistic, and sanitary form of receptacle for soiled linen, and should speedily replace the non-hygienic baskets still generally used for dirty clothes. They are seamless containers, available in forms square, oblong, triangular, and round, made of tough fibre, and coated with a waterproof white enamel, properly ventilated, and free from nails or rivets.[5] Having tested this reliable, durable, and effective container, we have no hesitation in commending it not only for service in hospitals and sanatoria, but also for use in nursing-homes and private houses.



THE UNO SANITARY HAMPER.

[1] The Boracic Acid Foot Socks are supplied in various sizes at 4½d. per pair by Messrs. Boots, the headquarters of which firm are at Station Street, Nottingham.

[2] A set of four Somnar Pads is supplied, carriage paid, for 12s. 6d. by the makers, H. W. Pickering and Son, Holt, Norfolk.

[3] The "Eros" Combined Plate-holder and Picture Hook is made by William E. Farrer, Ltd., Star Works, Heath Mill Lane, Birmingham; London Offices: 39, Victoria Street, Westminster, S.W. 1. A specimen will be sent for 1s. 1½d., post free.

[4] The Bathroom Cabinet First Aid Chart is supplied by Bauer and Black, 2,500, South Dearborn Street, Chicago, U.S.A.

[5] Full particulars regarding the Uno Seamless Sanitary Hampers can be obtained on application to the sole manufacturers, Uno Products, Beulah Works, Ladbrook Road, South Norwood, S.E. 25.

Consumptive and other tuberculous patients, like persons generally, oftentimes suffer general depression and considerable local discomfort and itching from the prevalence of heat, or during summer months in this country or residence abroad from the attacks of mosquitoes, midges, and various flies. A simple, pleasing, and particularly effective means for meeting disabilities, allaying the drawbacks of excessive perspiration, lessening cutaneous irritation, and bringing about a sense of restoration and well-being is obtained by the use of Messrs. Atkinson's "Gold Medal" EAU DE COLOGNE.[1] This is made from reliable oils obtained from orange blossoms, and all the other ingredients are of the best. Such a preparation as this has been properly matured, and its perfume is delicate and delightful, and will be appreciated by all invalids.

Messrs. A. and F. Pears, Ltd., the famous manufacturers of soap preparations, have introduced a novel form of IVOSTRIP SHAVING STICK, which will not only be approved and used by many medical men, but will be found of special convenience and service by patients living under open-air conditions.[2]

Many men prefer the use of a cream preparation for shaving. The Palmolive Company have recently introduced a particularly delightful and effective form of SHAVING CREAM, put up in convenient, collapsible metal tubes.[3]

The well-known firm of Macfarlane, Lang and Co., are now manufacturing a series of excellent biscuits specially suitable for use in sanatoria. Among them attention should be directed to the "Granola Digestive," "Dinner Toast," and "Ginger Nut," particularly on account of their attractiveness, palatability, and high nutrient value.[4]

In the treatment of many wasting diseases, as well as during the course and convalescence of various acute affections, and particularly in many cases of tuberculosis, fresh meat extracts and pure meat-juice properly prepared are often of considerable service. We would specially commend the "ALLENBURY" LIQUID BEEF, which is a highly concentrated nutrient and stimulant containing the soluble uncoagulated albuminoids and extractions of carefully selected lean beef in a form which is readily assimilated.[5] This liquid meat-juice also contains vitamins, keeps well, is free from deleterious preservatives, and is most palatable.

SEDOBROL is a sedative preparation which would appear to be of value in dealing with certain restless tuberculous subjects. It is provided in tablet form and consists of sodium bromide, 17 grains in each tablet, together with fat and various vegetable extracts, but no other drug. One or two of these tablets dissolved in a cup of hot water

[1] The "Gold Medal" Eau de Cologne is supplied by J. and E. Atkinson, Ltd., Soma Works, Southwark Park Road, Bermondsey, S.E. 16, and at 24, Old Bond Street, W. 1, in bottles varying in price from 2s. 3d. to 36s.

[2] Particulars of the new Ivostrip Shaving Sticks will be sent on application to the manufacturers, A. and F. Pears, Ltd., 71-75, New Oxford Street, W.C. 1.

[3] Palmolive Shaving Cream is made by the Palmolive Company, Ltd., 21 and 23, Eagle Street, High Holborn, W.C. 1, who will send particulars of their preparations on application.

[4] Messrs. Macfarlane, Lang and Co. will send particulars of their products to doctors on application being made to the Imperial Biscuit Works, Fulham, S.W. 6.

[5] A small bottle of 3 ounces of "Allenbury" Liquid Beef costs 3s. Particulars can be obtained from Allen and Hanburys, Ltd., Bethnal Green, E. 2.

makes a fragrant, savoury, mildly hypnotic bouillon which is comforting and palatable.[1]

MELOVOL is a new and palatable emulsion of cod-liver oil with pure honey, fresh yolk of egg, and natural orange-juice.[2] It is a nutrient rich in vitamins, and is an excellent preparation, particularly suitable for delicate and tuberculous children.

CODLIVEX is a preparation which is the outcome of researches carried out by Dr. H. Iscovesco at the Sorbonne in Paris on the livers of codfish and various animals. Codlivex is a confection in circular tablet form, flavoured with chocolate, containing the lipoid of liver in such proportion that one tablet is equivalent to one tablespoonful of cod-liver oil.[3] The therapeutic effects are those of cod-liver oil, but there are none of the disagreeable qualities which make this valuable agent unpalatable to so many. Codlivex will be of special service in the treatment of delicate, rachitic, and tuberculous children.

ETHIDOL is a new preparation which promises to be of value in tuberculous cases.[4] It is an ethyl iodo-ricinoleate containing 20 per cent. of iodine in organic combination. It is said to possess considerable potency and penetrability, and does not stain or irritate. It is readily miscible with almond or olive oil, or can be incorporated in such preparations as "Paroleine" and "Borofax." Heating to 100° C. for sterilization before injection does not impair its activity. It has proved beneficial in tuberculous glands when injected directly into the affected tissues.

Messrs. Duncan, Flockhart and Co. are providing several admirable preparations, which experience has proved to be of great service, not only in the treatment of winter coughs, but in the relief of the bronchitis and associated disorders which commonly add greatly to the discomfort of consumptives. We would direct special attention to Elixir Ribes Nigra and Elixir Terpo-Heroin Co.[5] The former is a skilfully prepared combination of heroin, ipecacuanha, menthol, etc., flavoured with Syrup. Ribes Nig., obtained from the finest fresh fruit. The latter is a pleasantly flavoured effective elixir, containing heroin hydrochloride, and terpin hydrate in a suitable basis. These preparations are of much service in the treatment of the troublesome cough met with in so many cases of pulmonary tuberculosis.

MARMITE[6] is a valuable yeast extract especially rich in Vitamin B. The assimilation of fats is considerably aided by the administration of Marmite, and hence this preparation is one of much assistance in the treatment of many cases of tuberculosis.

[1] Medical practitioners may obtain specimen and particulars of Sedobrol on application to The Hoffmann-La Roche Chemical Works, Ltd., 7-8, Idol Lane E.C. 4.

[2] Melovol is manufactured by Vitmar, Ltd., the proprietors of Callard's Vitamin Foods, with works at Southfields, S.W. 18, and London Depot at 35, New Cavendish Street, W. 1.

[3] Codlivex specimens and particulars can be obtained by medical practitioners on application to John Bell and Croyden, Ltd., incorporating Arnold and Sons, Standard Works, Lawrence Road, Tottenham, N. 15, and 50, Wigmore Street, W. 1.

[4] Particulars regarding "Ethidol" can be obtained on application to Burroughs Wellcome and Co., Snow Hill Buildings, E.C. 1.

[5] Particulars regarding the specialities of Messrs. Duncan, Flockhart and Co. can be obtained on application to 155, Farringdon Road, E.C. 1.

[6] Medical advisers may obtain samples of Marmite and particulars on application to The Marmite Food Extract Company, Ltd., 59, Eastcheap, E.C. 3.

Calcium preparations have long found favour in the treatment of tuberculosis and other pre-tuberculous conditions. Messrs. C. J. Hewlett and Son, Ltd., are now providing pleasing tablets, flavoured and sweetened, and each containing 7½ grains of sodii-calcium lactate.[1] These are approved by children and invalids, and are very convenient for administration to children of all ages.

Messrs. Hewlett and Son have recently introduced a palatable emulsion of pure liquid paraffin with ¾ grain of Laxano in each teaspoonful.

KALZANA is a new calcium preparation which is being used in many hospitals and sanatoria for tuberculous subjects, and appears to be of particular service in the treatment of pre-tuberculous and tuberculous children.[2] Actino-therapists apparently consider that Kalzana enhances the benefits resulting from artificial light treatment. It is a double salt of calcium lactate and sodium lactate pleasantly flavoured, and does not produce nausea or other undesirable effects. It is claimed that the sodium constituent exalts the alkalinity of the blood to the extent necessary to secure effective calcium retention.

Tobacco seems to exercise an irresistible charm for the majority of people in almost every nation and of every class. Certainly most men patients are smokers. Medical advisers, when called to give directions regarding habits and manner of life, have to consider seriously the influence smoking may have on the weal or woe of their patient. Large numbers of consumptive and other tuberculous patients are confirmed smokers, and to deprive them of their cigarettes suddenly often leads to discomfort and depression, and, especially when they are resident in sanatoria, considerable discontent. When smoking is permitted patients should be advised duly to indulge in reliable brands. Among the best forms of cigarettes are those manufactured by the famous firm of Abdulla and Co. In the selection and making of the tobacco from which the Abdulla Cigarettes are made the greatest care is taken, and in their manufacture only the purest kind of suitable paper is used; moreover, the actual construction of the cigarettes, whether Virginian, Egyptian, or Turkish, is carried out under strictly supervised hygienic conditions. Special mild brands are available for tuberculous patients and other delicate persons.[3]

The well-known house of Charatan, long famous for their Old Briar Pipes and Cigar and Cigarette Tubes, now provide a special hygienic CIGARETTE HOLDER, fitted with aluminium plunger, which should be of service to cigarette-smoking patients.[4]

[1] Tablets of Sodii-Calcii Lactas can be obtained, 2s. per 100, from the makers, C. J. Hewlett and Son, Ltd., 35, Charlotte Street, E.C. 2.

[2] Medical practitioners may obtain a sample of Kalzana, with particulars, on applying to Therapeutic Products, Ltd., Napier House, 24-27, High Holborn, W.C. 1.

[3] Particulars regarding the Abdulla specialities in tobacco and cigarettes can be obtained on application to Abdulla and Co., Ltd., 173, New Bond Street, W. 1.

[4] The "Underbar" Cigarette Tube (price 4s. 6d.) is the invention of F. Charatan and Son, Ltd., 146, Minories, E., from whom full particulars can be obtained on application.

THE OUTLOOK.

ANNUAL REPORTS ON TUBERCULOSIS.

TUBERCULOSIS still remains an unconquered foe: but little progress is being made in discovering effective measures for securing the arrest of the disease when once it is firmly established. Much time, talent, and money are being expended in the preparation and publication of annual reports by tuberculosis officers and others, mainly composed of statistical returns and information chiefly of local interest, but contributing no real data likely to further knowledge of the problem as a whole. The time seems to have come when there might wisely be attempted some system of co-operation in research and co ordination in methods whereby records are published. The establishment of a permanent Tuberculosis Commission under the general direction of the Ministry of Health might be expected to prove of value to all classes of workers engaged in the organization and administration of tuberculosis work or undertaking research in regard to the disease. The time has certainly arrived when there is urgent need for a conservation of energies, and particularly a more economic expenditure of financial resources. Large sums of money are being expended on many tuberculous cases with but little or no permanent benefit, and meanwhile many measures which would go far to prevent the development of the disease are left inadequately supported. Among the many reports dealing with tuberculosis, brief reference may be made to two recently issued which are of particular interest and value. Sir George Newman, in his suggestive and stimulating official communication on "The Health of the School Child,"[1] devotes an important section to the consideration of open-air education. He shows that, although the value of sunlight and open-air as prophylactic and therapeutic agents has been recognized since the days of the ancient Greeks, and notwithstanding the fact that for nearly twenty years the School Medical Service has advocated the importance of adequate provision for open-air education, "the extent to-day of the facilities afforded by local education authorities is meagre and disappointing." Sir George Newman insists on the urgent need for amendment in this matter: "The particular need in the country to-day concerns two distinct classes of children. There is, first, that definite category of children who suffer from serious defect, which renders them incapable of deriving proper benefit from education in an ordinary public elementary school. These are children directly suffering from incipient or active tuberculosis, heart disease, ophthalmia, paralysis, etc., who need sequestration in day or residential special schools. . . . The other class of child for whom open-air educational facilities are provided is that of the subnormal child in attendance at the public elementary schools. Until the day shall arrive when all children receive their education more or less on open-air lines—for the healthy child as well as the delicate child

[1] "The Health of the School Child." Annual Report of the Chief Medical Officer of the Board of Education for the year 1924. Pp. 189. London: H.M. Stationery Office. 1925. Price 1s. 9d.

benefits from the open air—it is obvious that there must be a selection made in the schools of those children who, in the opinion of the school medical or other responsible officer, are in particular need of this advantage. It is only slowly that local education authorities and managers of schools are awakening to the requirements of this somewhat extreme class of listless, pale, anæmic, and debilitated children represented in every school." Sir George Newman elsewhere in his illuminating report says: "It [tuberculosis] is extremely common among children at and under school age; in infancy it has a relatively high fatality, which is, however, greatly reduced at school age. . . . Probably it is true to say that this disease receives more attention from school medical officers than any other of the infective diseases, and there is an increasing degree of co-operation between the school doctor and the tuberculosis officer." It is shown that available statistics indicate that in ten years the mortality among children from pulmonary tuberculosis has fallen by about 46 per cent., and from non-pulmonary tuberculosis by about 42 per cent., whilst the number of new cases notified, both of pulmonary and non-pulmonary forms of tuberculosis, has also substantially diminished. "When compared with the statistics for the population of all ages, these figures indicate that children offer a specially hopeful field for specific anti-tuberculosis measures, and that a substantial measure of success, part of which must be regarded as attributable to such measures, has already been obtained in this field." Of the total 20,973 beds in residential institutions for tuberculosis, the number regularly available for the treatment of children is estimated to be—for pulmonary tuberculosis, 2,840; and for non-pulmonary tuberculosis, 2,750.

The Tuberculosis Section of the Annual Report of the Metropolitan Asylums Board is another official document which well repays perusal.[1] The section dealing with pulmonary tuberculosis is edited by Dr. James Watt, Chief Medical Officer in the M.A.B. Medical Tuberculosis Service; and the section dealing with non-pulmonary tuberculosis is edited by Dr. W. T. Gordon Pugh, Chief Medical Officer in the Children's and Surgical Tuberculosis Services of the M.A.B. Contributions also appear under the names of Dr. W. C. Fowler, Dr. C. D. S. Agassiz, Dr. Douglas Porter, Dr. J. Whitby, Dr. H. O. West, and Mr. W. G. Sutcliffe. The Report contains a series of interesting statistical tables. The M.A.B. has 2,263 beds available for tuberculous cases. It is estimated that in the three sanatoria—King George V. Sanatorium for Men, Pinewood for Women, and High Wood Hospital for Children—intended for improvable subjects, from 20 to 30 per cent. are so advanced when admitted that they are not likely to be benefited materially. The Grove Park Hospital for advanced male and female cases of pulmonary tuberculosis will provide an additional 322 beds. Over 25 per cent. of all the deaths at the hospitals for advanced cases occur within four weeks of admission. Dr. Watt contends that "little further advance in regard to early diagnosis can be expected with the methods at present employed. Improvement can only be attained by routine examination of the general population such as is now done for school-children, and probably by treating a larger proportion than at present on strong presumptive evidence without actual

[1] "Metropolitan Asylums Board Annual Report for 1924: Tuberculosis Section." Pp. 273-318. Issued from the offices of the M.A.B., Victoria Embankment, E.C. 4. Price 1s.

proof of tuberculosis. This latter principle is freely conceded where children are concerned, and might well, when more attention is being paid to preventive medicine, be extended to adults."

THE TREATMENT OF TUBERCULOSIS BY METAL SALTS.

Among therapeutic measures for combating tuberculosis, attention is now being directed to the use of certain metallic salts. Dr. L. E. Walbum, Chief of the Serum Department of the State Serum Institute, Copenhagen, has favoured us with a reprint of his work on "Therapeutic Experiments with Metal Salts," from the *Acta Pathologica Scandinavica*.[1] Dr. Walbum has also sent us the following statement recently presented to the Northern Congress for Physiology and Experimental Medicine at Lund in Sweden by Dr. O. Helms, Chief Physician of the Nakkebølle Fjord Sanatorium: "During the last nine months I have at the sanatorium on Nakkebølle Fjord in collaboration with Dr. Walbum treated a number of patients with intravenous injection of metal salts against tuberculosis of the lungs. It is a question of experiments that are not yet terminated, but must be pursued for a long time to obtain results, it being necessary to test with diverse metal salts, various quantities of them, and varying intervals between the injections. The majority of the cases are treated with $MnCl_2$—the treatment with other metal salts may for the time being be disregarded—generally a solution 0·03 molecular volume, which solution has been injected at intervals of three days, five days, six days at a time with an interval of six days or twenty consecutive days. Patients were only regarded as fully treated when at least twelve injections had been administered; normally, however, they were given twenty. There are twenty-eight of such patients, two of whom being extremely febrile are excluded. They were treated *solaminis causa* without expecting any improvement. The duration of the treatment was, on the average, sixty days. By stethoscopy improvement was observed in seventeen (66 per cent.); no change in seven; exacerbation in two. Increase in weight was on an average 2·8 kilo., which may be regarded as high. A number of patients stated that after the injections and especially on the days they were administered they got a good appetite. In sixteen of the twenty-six T.B. was noted at the commencement of treatment, and in ten this had disappeared on termination of same. Among the complications normally there was a fairly severe congestion to the head immediately after the injection, and now and again slight reaction with rise of temperature, and in some few cases greater rise in temperature of longer duration. On the whole, the patients stood the treatment well and were up when there was no rise in temperature."

NOTES AND RECORDS.

The Tuberculosis Society, the Hon. Secretary of which is Dr. F. J. C. Blackmore, The Tuberculosis Dispensary, Maxey Road, Plumstead, S.E. 18, holds its meetings at the house of the Society of Medical Officers of Health, 1, Upper Montague Street, Russell Square,

[1] The *Acta Pathologica et Microbiologica Scandinavica* is published by Levin and Munksgaard, København, and Dr. Walbum's communication on "Therapeutic Experiments with Metal Salts" appears in vol. i., fasc. 4. 1924.

W.C. 1. The following is the Society's programme for the first half of 1926: January 15, "Clinical Types of Pulmonary Tuberculosis in Wales," by Professor Lyle Cummins, C.M.G., C.B.; February 19, "Tuberculosis in Japan," by Dr. C. Nicory; March 19, "Tuberculosis in Mental Hospitals," by Dr. E. A. Evans; March 25 to 27, Provincial Meeting at Cambridge, which will be held in conjunction with the Society of Medical Superintendents of Tuberculosis Institutions; May 21, Visit to a Tuberculosis Institution; June 18, A Clinical Meeting and Demonstration of Cases at Brompton Hospital.

The Joint Tuberculosis Council Post-Graduate Courses were held last autumn, having been arranged in consultation with the Ministry of Health: (1) A course of two weeks' duration on the pathology and bacteriology of tuberculosis was conducted by Dr. Roodhouse Gloyne at the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, September 21 to October 3. (2) A course in non-pulmonary tuberculosis of one week's duration was held September 28 to October 3, and demonstrations were given at various hospitals. It is the intention of the Joint Tuberculosis Council to arrange for post-graduate courses to be held during 1926.

We have received an intimation from the National Association for the Prevention of Tuberculosis, 20, Hanover Square, W. 1, that the next International Tuberculosis Conference will be held in Washington, U.S.A., from September 30 to October 2. The International Union against Tuberculosis was founded in 1920. The headquarters are in Paris and in close relationship with the League of Red Cross Societies. Tuberculosis Conferences under the auspices of the Union have been held at Paris (1920), London (1921), Brussels (1922), and Lausanne (1924). Subjects of great interest and exchange of ideas and methods for dealing with tuberculosis have been considered. These Conferences are attended by leading scientists from all over the world, and the International Union is directed by representatives of all the National Tuberculosis Associations, or in the absence of such Association by representatives of the Government, of the countries within the League of Nations, and the United States of America. Each country is represented on the Council of the Union by a definite number of representatives, Great Britain having five such official delegates. The Conferences are open to members of the public on application to the respective National Association, and on payment of a small fee. At the Washington Conference it is proposed to pay special attention to the following subjects: (1) The part played by contagion in tuberculosis among adults; (2) anatomical structure of tubercle, from histogenesis to cavity; (3) tuberculosis and milk. Further particulars may be obtained on application to the Secretary, National Association for the Prevention of Tuberculosis, 20, Hanover Square, London, W. 1.

The superiority of Leysin, the well-known tuberculosis resort upon the sheltered mountain slopes of the Rhone Valley, Switzerland, has been long recognized; but it is not sufficiently advertised. The Leysin English Aid Association, although but little known, has been in existence for more than twenty years. Its object is to help financially English and American sufferers from tuberculosis, who would otherwise find it impossible to meet the expense of treatment at Leysin. Since its inception the Association has assisted over two hundred cases at an expenditure of £9,000, less the comparatively small contributions

of the patients themselves. At the present time six patients are receiving grants at an outlay of £60 a month. With but few exceptions the applicants for assistance come from England. It is to be regretted that the funds for this worthy charitable undertaking are provided locally, but little assistance coming from the country chiefly benefited. The Vice-Consul, Mr. Marcel Cuenod, the Hon. President and Secretary of the Leysin English Aid Association, will be glad to supply information and receive donations or annual subscriptions on application being made to him at 8, Avenue Nestlé, Montreux, Switzerland.

The Ministry of Health have issued a 21-page document giving in tabular form returns regarding the costs at residential institutions for tuberculous patients.

Under the title of "Dispensary Control of Tuberculosis," the Association of Tuberculosis Clinics of the City of New York have issued as their report and year-book an illustrated record of recent developments and present-day services.

Doctors and all actual and prospective owners of motor cars will find much valuable information regarding the construction, control, and care of a car in the new edition of "The Morris Owner's Manual."[1]

All persons proposing to visit Switzerland, Italy, and other European countries, either for health or holidays, will be well advised to secure a copy of the current issue of *Les Grands Express Européens*.[2] It contains railway time-tables, illustrations, maps, references to hotels, and other notes which will be very serviceable to travellers.

Mr. E. Gellibrand has prepared a thoroughly practical handbook which patients, and indeed all persons proposing to travel by sea or land, will find invaluable. In condensed form it offers information and suggestions regarding tickets, passports, luggage, money, hotels, trains, guides, tips, and many other points which require consideration in travelling.[3]

Photographers must be sure to secure the 1926 issue of the "Wellcome" Photographic Diary and Handbook. It is a veritable encyclopædia, containing guiding tables for exposures and an immense amount of information in condensed form regarding photographic processes, materials, and the like.[4]

We gladly welcome the second number of *Sunlight*, the official journal of the Sunlight League. It contains articles by Dr. C. W. Saleeby, Dr. T. A. Palm, Dr. F. Howard Humphris, Sir Arthur Crosfield; a characteristic message from the Dean of St. Paul's; and a number of attractive illustrations.[5]

[1] "The Morris Owner's Manual" is published by Morris Motors, Ltd., Cowley, Oxon. Price 1s. 6d. net.

[2] *Les Grands Express Européens* is published eight times a year by Frobenius S.A. Compagnie Suisse d'Arts Graphiques, Spalenring 31, Bâle, Suisse.

[3] "Travelling Do's and Don't's," by Edward Gellibrand. Pp. v + 54. London: Methuen and Co., Ltd., 36, Essex Street, W.C. 1925. Price 2s. 6d.

[4] The "Wellcome" Photographic Handbook and Diary, 1926, is issued by Burroughs Wellcome & Co. (The Wellcome Foundation, Ltd.), Snow Hill Buildings, Holborn, E.C. 1. Price 1s. 6d.

[5] *Sunlight*: A Journal of Light and Truth (price 1s. each number), is published by The Sunlight League, 37, Russell Square, W.C.